



Mississippi Department of Environmental Quality

MS AERMOD Ready Met Files

5-Year Data Set

2021 – 2025

Support Documentation

Air Division – Air Quality Modeling
July 2026

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Introduction

The Mississippi Department of Environmental Quality (MDEQ) has posted preprocessed meteorological files for use with the US EPA regulatory model AERMOD on the MDEQ website. The posting of these files in no way dictates their use nor supplants the use of professional judgment in determining whether the files are appropriate for any particular application. This report documents the development of the preprocessed files for the 5-year period 2021 through 2025.

What Is New in This Data Set

The National Oceanic and Atmospheric Administration (NOAA) discontinued updates to the Integrated Surface Hourly Data (ISHD) archive after August 29, 2025. ISHD has been replaced by the Global Historical Climatology Network hourly (GHCNh) data set. To accommodate the new format, EPA released version 26135 of the AERMOD Modeling System on July 9, 2026, adding GHCNh processing capability to AERMET and AERMINUTE. This is the first MDEQ data set processed entirely from GHCNh surface data. All components of the modeling system were updated for this release:

Program	Version Used	Replaces	Role
AERMET	26135	24142	Meteorological preprocessor (GHCNh capable)
AERMINUTE	26135	15272	1-minute ASOS wind processor
AERSURFACE	26135	24142	Surface characteristics from NLCD land cover
AERMOD	26135	24142	Dispersion model (completeness test runs)

Program versions used for the 2021-2025 data set

AERMET 26135 also writes 4-digit years in the surface (.sfc) and profile (.pfl) output files. AERMOD versions currently in regulatory use read these files directly; users of older utilities that assume 2-digit years should verify compatibility.

Revisions, July 26, 2026. This document supersedes the version issued July 10, 2026. AERMINUTE writes the station WBAN without its leading zero in the header of its hourly output file, while AERMET carries the zero-padded form and compares the two as text. For the two stations whose WBAN begins with a zero and for which one-minute data are available — Jackson (03940) and Tallulah/Vicksburg (03996) — AERMET therefore rejected the entire one-minute wind record and reverted to the standard hourly winds. AERMET reports this condition as a warning rather than an error, so the affected runs completed normally. Both stations were reprocessed with the corrected header and their surface and profile files, wind roses and completeness statistics in this document reflect the reprocessed data. The remaining sixteen stations were unaffected by that issue. The correction substantially reduces the number of hours flagged as calm at these two stations and raises their data completeness accordingly; users holding the July 10, 2026 files for Jackson or Tallulah/Vicksburg should replace them. A second revision on the same date applies quality screening to the surface observations. NCEI flags individual observations in the GHCNh record as suspect or erroneous, but AERMET reads the file as delivered and does not act on those flags, so flagged values were reaching the processed files; a small number of observations were also found to decode to wind speeds that disagree

with the METAR text NCEI carries alongside them. Flagged and disagreeing values are now treated as missing before processing, and every rejection is itemised in a quality-control log included with each station data set. Across the eighteen stations this removed 78 hours carrying non-physical wind speeds out of 789,264 hours. No quarter changed its status against the 90 percent completeness criterion; five annual values in Table 4 moved by one to four tenths of a percentage point. All station data sets and the wind roses in this document were regenerated from the screened data.

Data Sources

Hourly surface observations were obtained from the NOAA National Centers for Environmental Information (NCEI) in the GHCNh pipe-delimited format (by-year station files): [GHCNh Data Access](#). Radiosonde observations were obtained from the NOAA Integrated Global Radiosonde Archive (IGRA): [IGRA Data](#). When available, one- and five-minute ASOS wind data were included in the processing using AERMINUTE version 26135. One- and five-minute data were obtained from NCEI: [One-Minute Data](#) and [Five-Minute Data](#).

Upper air observations from Jackson, MS (KJAN) were used for most stations. Observations from Slidell, LA (KLIX) were used for the coastal stations (Gulfport, Pascagoula) and Mobile; observations from Little Rock, AR (KLZK) were used for Memphis. Surface data for all five years were combined into a single GHCNh input file per station so that no hours are lost at year boundaries. Individual years were processed from January 1 to January 1; each output file therefore contains one year plus the first day of the following year.

Surface Characteristics – AERSURFACE 26135

When applying the AERMET meteorological processor, the user must determine appropriate values for three surface characteristics: surface roughness length (z_o), albedo (r), and Bowen ratio (Bo). AERSURFACE version 26135 was used to derive these characteristics from the 2021 National Land Cover Database (NLCD) land cover, percent impervious, and percent tree canopy data obtained from the Multi-Resolution Land Characteristics Consortium (MRLC). A 1-kilometer radius around each meteorological tower (ZORADIUS 1.0) was used with monthly temporal resolution.

Seasonal Designations

Winter with continuous snow cover does not occur in Mississippi, so all winter months use the “winter with no snow” (WINTERNS) designation. Seasonal month assignments were derived for each station from the NCEI 1991–2020 monthly temperature normals for the associated climatological station: months with a mean normal temperature of 70°F or greater were designated midsummer with lush vegetation (SUMMER); the coldest months of the year were designated WINTERNS; the transitional months on the warming limb of the annual cycle were designated SPRING and those on the cooling limb AUTUMN. This station-specific approach captures the longer growing season along the Gulf Coast relative to north Mississippi, as shown in Table 2.

The seasonal designations are consistent with the freeze climatology of the state. Figure 1 shows the median date of the first fall and last spring 28°F freeze, interpolated from the NCEI 1991–2020 Climate Normals across 210 stations in Mississippi and adjacent counties. North Mississippi experiences its first freeze in mid-November and its last freeze in mid-to-late March, while the Gulf Coast typically does not reach its first freeze until late December and clears its last freeze by early February — a growing season roughly six weeks longer along the coast.

Median 28°F Freeze Dates — Mississippi (1991–2020 Normals)

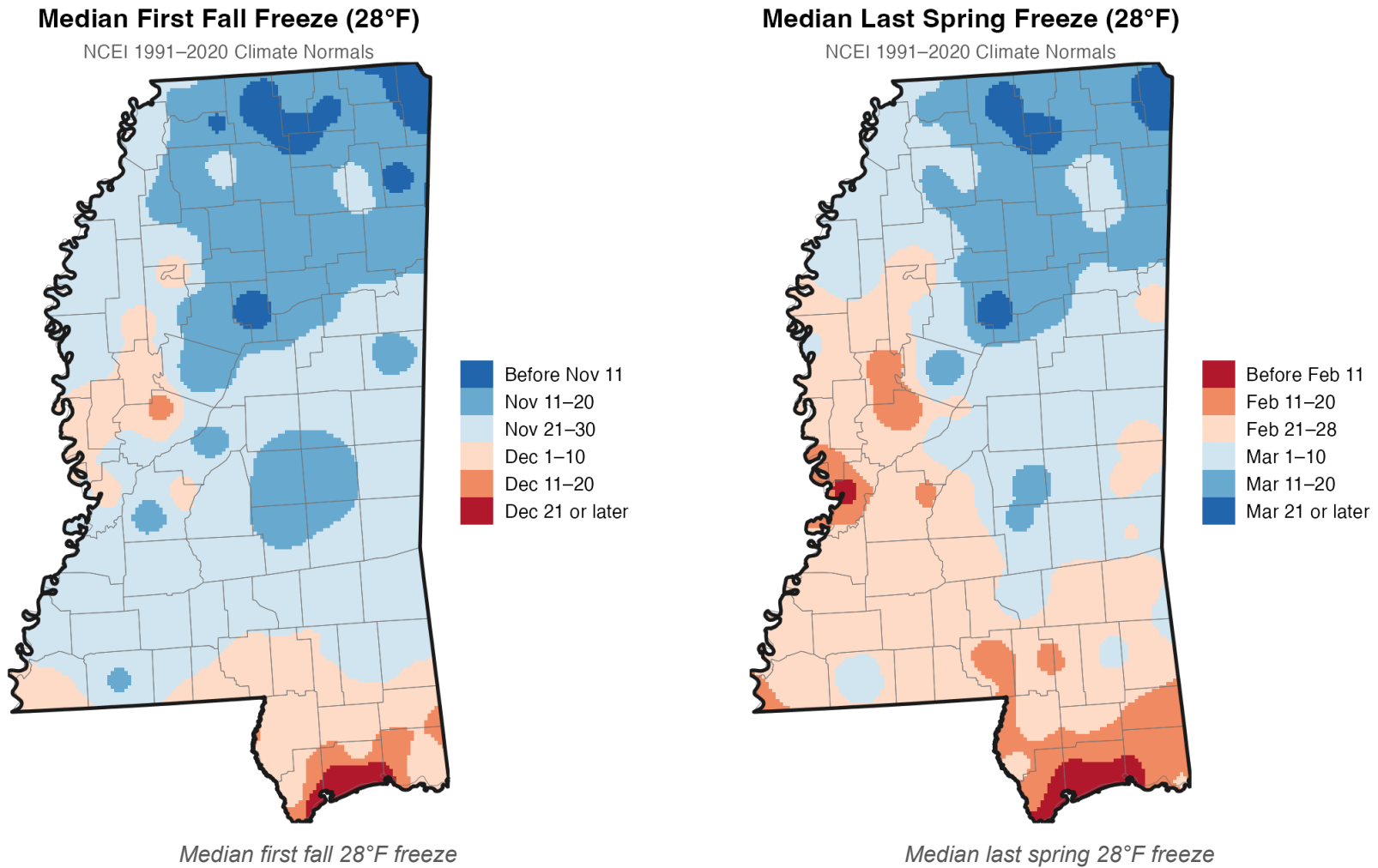


Figure 1 – Median first fall and last spring 28°F freeze dates, interpolated from NCEI 1991–2020 Climate Normals (210 stations)

Surface Moisture

Surface moisture for the 5-year window was classified for each station by comparing the mean annual precipitation observed during 2021–2025 (NOAA ACIS, incomplete years excluded) against the station’s 1991–2020 precipitation climatology. Windows falling in the lower tercile of the historical distribution are classified DRY, the upper tercile WET, and the middle tercile AVERAGE. All stations classified AVERAGE for 2021–2025 except Pascagoula (KPQL), which classified WET (Table 2).

The station-level classifications are corroborated by NCEI divisional precipitation rankings for Mississippi’s ten climate divisions (Figure 2 maps the divisions). Figure 3 presents the monthly precipitation rank of each division over the 2021–2025 window against the full nClimDiv period of record. Wet and dry months largely offset over the five years — every division averages near the middle of its historical distribution — supporting the AVERAGE designation applied across the network, with the Coastal division trending wettest, consistent with the WET designation at Pascagoula.

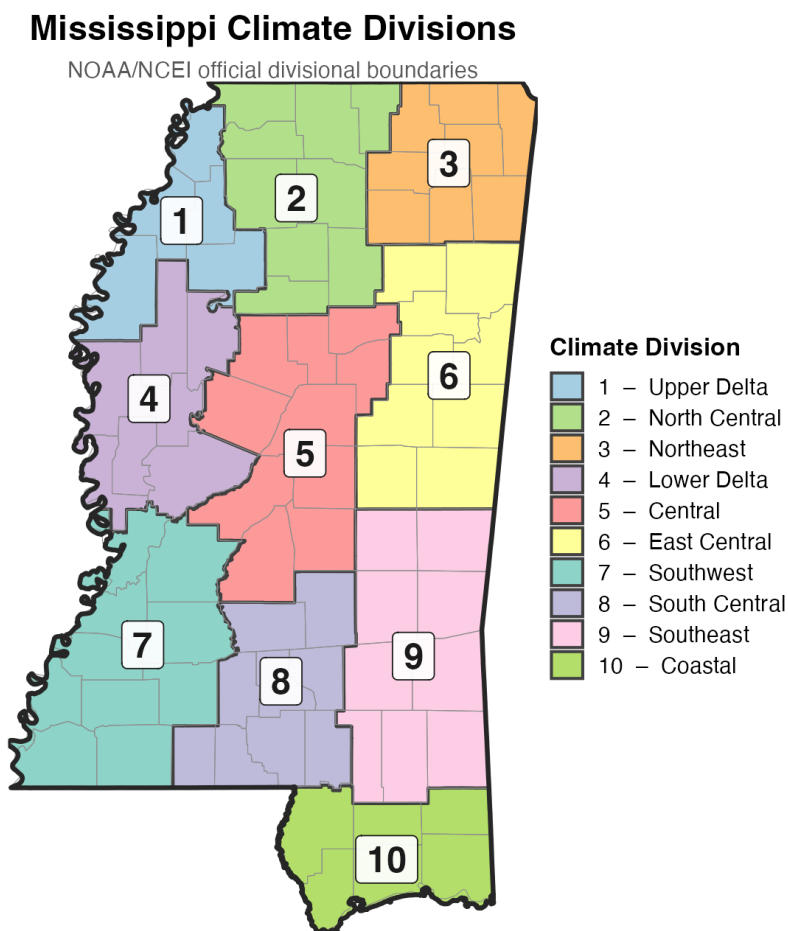
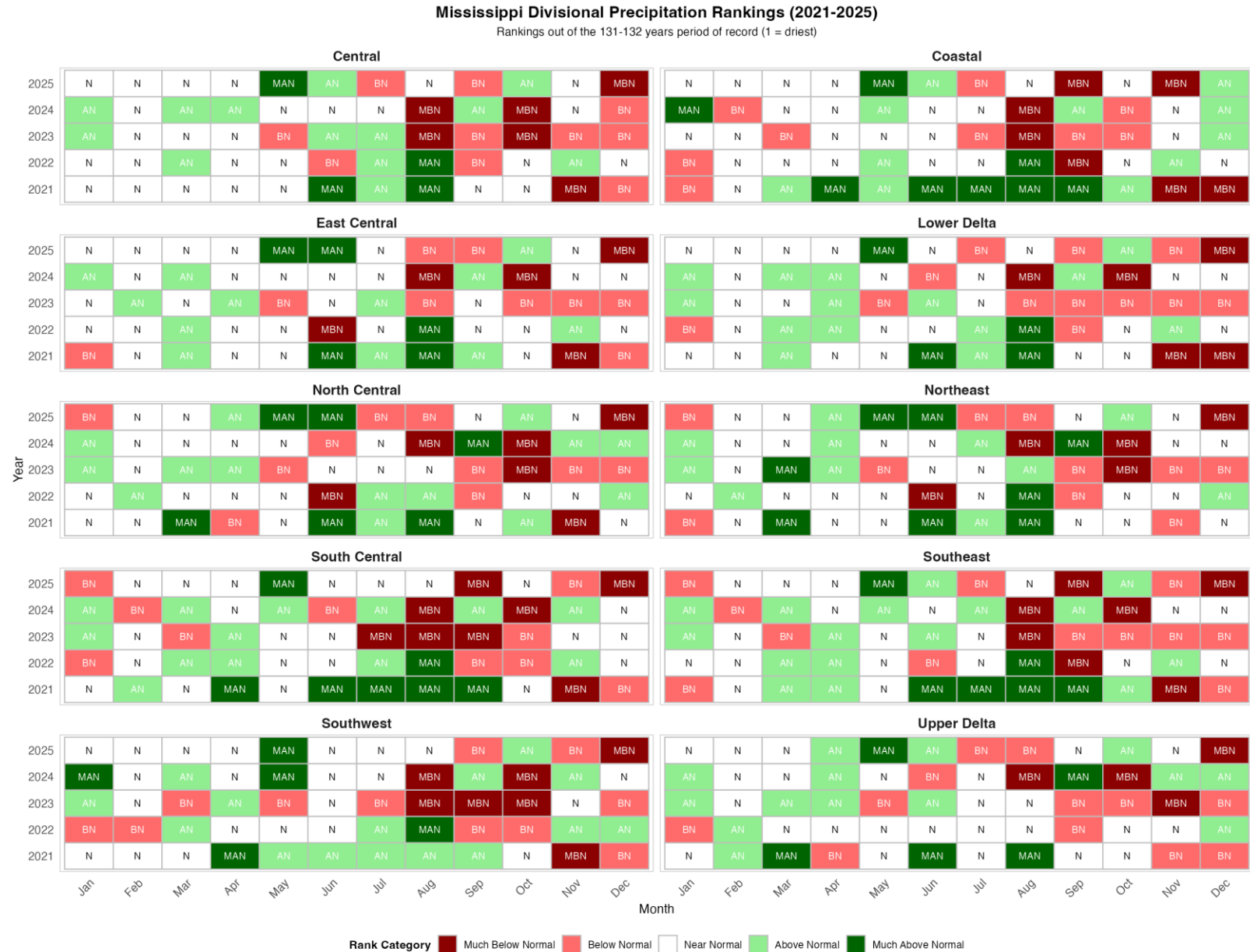


Figure 2 – Mississippi climate divisions (NOAA/NCEI official boundaries)



Data source: NCEI Climate at a Glance (nClimDiv)
MBN: Much Below Normal (driest 10%), BN: Below Normal, N: Near Normal,
AN: Above Normal, MAN: Much Above Normal (wettest 10%)

Figure 3 – NCEI divisional precipitation rankings, 2021-2025 (MBN = much below normal / driest 10%; MAN = much above normal / wettest 10%)

Airport and Non-Airport Sectors

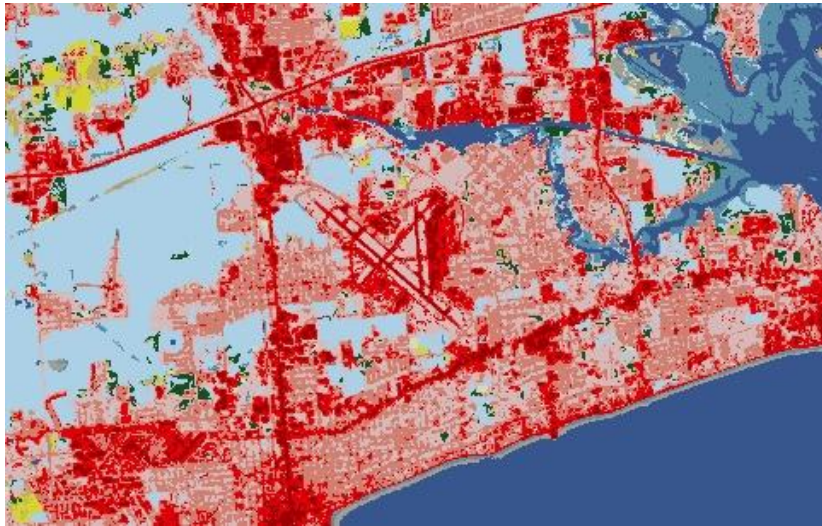
Individual wind direction sectors were identified as airport (AP) or non-airport (NONAP) based on the predominant land use within the 1-km radius of each meteorological tower, consistent with Section 2.3.2 of the AERSURFACE User's Guide. Sector boundaries were verified against published runway geometry and aerial photography for each airport. The example below shows the Gulfport-Biloxi International Airport (KGPT) sectors: the airport sector spans 315° to 180° and the non-airport sector spans 180° to 315°.



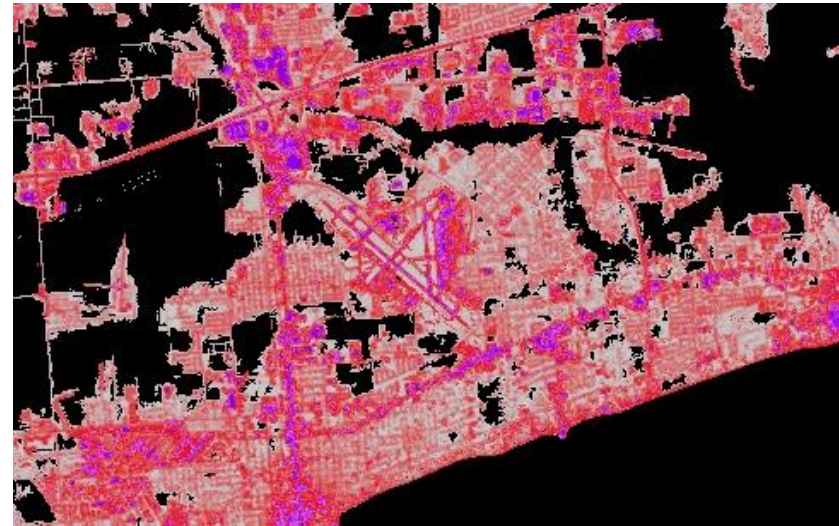
Figure 4 – KGPT 1-km analysis radius with airport (AP) and non-airport (NONAP) sectors

The land cover, percent impervious, and percent tree canopy inputs for each airport were drawn from the 2021 NLCD products. Figure 5 shows these three MRLC data layers for the Gulfport (KGPT) analysis area as an example: land cover (left), percent impervious surface (center), and percent tree canopy (right).

KGPT — 2021 NLCD Land Cover, Impervious, and Tree Canopy



2021 land cover



Percent impervious



Percent tree canopy

Figure 5 – KGPT 2021 land cover, impervious, and tree canopy data obtained from the [Multi-Resolution Land Characteristics Consortium \(MRLC\)](#).

The AERSURFACE control file actually used for the Gulfport station is reproduced below. Files for the remaining stations follow the same structure with station-specific coordinates, sectors, and seasonal assignments.

```
CO STARTING
TITLEONE AERSURFACE Input for KGPT
TITLETWO NLCD2021, Station: GULFPORT - BILOXI AP
OPTIONS PRIMARY ZORAD
DEBUGOPT GRID TIFF
CENTERLL 30.412222 -89.080833 NAD83
DATAFILE NLCD2021 "input/kgpt_2021_NLCD_Land_Cover.tif"
DATAFILE CNPY2021 "input/kgpt_2021_NLCD_Canopy.tif"
DATAFILE MPRV2021 "input/kgpt_2021_NLCD_Impervious.tif"
ZORADIUS 1.0
CLIMATE AVERAGE NOSNOW NONARID
FREQ_SECT MONTHLY 2 VARYAP
SECTOR 1 315.0 180.0 AP
SECTOR 2 180.0 315.0 NONAP
SEASON WINTERNS 1
SEASON SPRING 2 3 4
SEASON SUMMER 5 6 7 8 9 10
SEASON AUTUMN 11 12
RUNORNOT RUN
CO FINISHED
OU STARTING
SFCCHAR "kgpt_2021_aers_sfc.txt"
NLCDGRID "kgpt_2021_aers_lc_grid.txt"
CNPYGRID "kgpt_2021_aers_can_grid.txt"
MPRVGRID "kgpt_2021_aers_imp_grid.txt"
OU FINISHED
```

AERSURFACE 26135 control file for KGPT

The AERSURFACE installation was verified by reproducing EPA's published RDU test case output exactly. The figure below summarizes the resulting monthly surface parameter profiles across the 18-station network; albedo and Bowen ratio are constant across sectors while surface roughness varies by sector as expected.

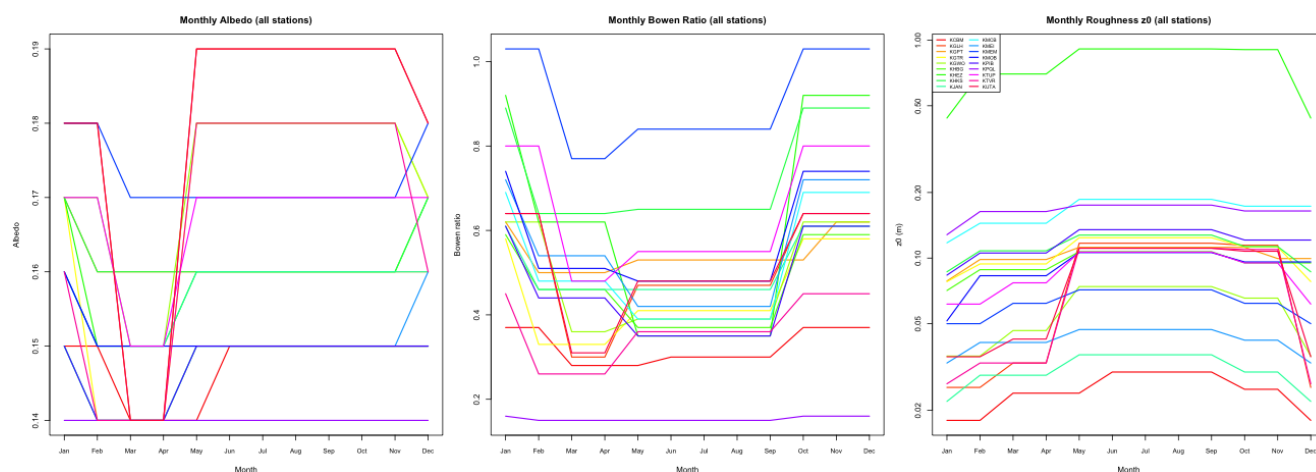


Figure 6 – Monthly albedo, Bowen ratio, and roughness length across the network

Station Seasonal and Moisture Designations

Station	Winter (no snow)	Spring	Midsummer	Autumn	Moisture
KCBM	Dec, Jan, Feb	Mar, Apr, May	Jun-Sep	Oct, Nov	AVERAGE
KGLH	Dec, Jan, Feb	Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KGPT	Jan	Feb, Mar, Apr	May-Oct	Nov, Dec	AVERAGE
KGTR	Dec, Jan	Feb, Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KGWO	Dec, Jan, Feb	Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KHBG	Jan	Feb, Mar, Apr	May-Sep	Oct, Nov, Dec	AVERAGE
KHEZ	Dec, Jan	Feb, Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KHKS	Dec, Jan	Feb, Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KJAN	Dec, Jan	Feb, Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KMCB	Jan	Feb, Mar, Apr	May-Sep	Oct, Nov, Dec	AVERAGE
KMEI	Dec, Jan	Feb, Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KMEM	Dec, Jan, Feb	Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KMOB	Jan	Feb, Mar, Apr	May-Sep	Oct, Nov, Dec	AVERAGE
KPIB	Jan	Feb, Mar, Apr	May-Sep	Oct, Nov, Dec	AVERAGE
KPQL	Jan	Feb, Mar, Apr	May-Sep	Oct, Nov, Dec	WET
KTUP	Dec, Jan, Feb	Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KTVR	Dec, Jan	Feb, Mar, Apr	May-Sep	Oct, Nov	AVERAGE
KUTA	Dec, Jan, Feb	Mar, Apr	May-Sep	Oct, Nov	AVERAGE

Table 2 – AERSURFACE monthly seasonal designations and 2021-2025 surface moisture

Meteorological Processing – AERMET 26135

GHCNh surface data were read directly by AERMET 26135 using the new GHCN file format keyword on the SURFACE DATA record. Upper air data were downloaded in IGRA format and extracted for 2021–2025. When available, ASOS 1-minute winds processed through AERMINUTE 26135 were substituted for the standard hourly winds (SUBNWS) with a threshold wind speed of 0.5 m/s (THRESH_1MIN 0.50). Cloud cover and temperature substitution (SUB_CC, SUB_TT) were enabled. The data were processed both with and without the ADJ_U* option in Stage 2; output files processed with ADJ_U* carry the “US” suffix.

Example Stage 1 and Stage 2 input files for the Jackson (KJAN) station are reproduced below as actually used.

```
*****
** AERMET - STAGE 1 Input
** AERMET VERSION: 26135 (GHCNh surface data)
** Mississippi DEQ Air Quality Modeling
** Date: 2026/07/09
*****
JOB
  REPORT      KJAN.RP1
  MESSAGES    KJAN.MG1
UPPERAIR
  DATA       KJAN21-25UA.txt IGRA
  EXTRACT     KJAN.UAX
```



```

AUDIT      ALL
MODIFY     ALL
QAOUT      KJAN.UQA
XDATES     2021/01/01 TO 2026/01/01
** Station: JACKSON/ALLEN C. THOMPSON FIE
LOCATION    07223 32.319N    90.080W 6 90.70
SURFACE
** Surface data: GHCNh (NCEI), replaces discontinued ISHD
DATA      KJAN_GHCNh_2021_2025.psv  GHCN
EXTRACT   KJAN.SAX
AUDIT     ALL
QAOUT     KJAN.SQA
XDATES    2021/01/01 TO 2026/01/01
** Station: JACKSON INTERNATIONAL AIRPORT
LOCATION    03940 32.320N    90.078W 6 90.20

```

AERMET Stage 1 input – KJAN (GHCNh surface data, IGRA upper air)

```

JOB
REPORT     KJAN2025.RP2
MESSAGES   KJAN2025.MG2
UPPERAIR
QAOUT      KJAN.UQA
SURFACE
QAOUT      KJAN.SQA
** Hourly averaged 1-minute ASOS winds (AERMINUTE)
ASOS1MIN   AERMINUTE_hour.dat
METPREP
MODEL      AERMOD
OUTPUT     KJAN2025.sfc
PROFILE    KJAN2025.pf1
XDATES     2025/01/01 TO 2026/01/01
METHOD     REFLEVEL  SUBNWS
METHOD     WIND_DIR  RANDOM
METHOD     CCVR     SUB_CC
METHOD     TEMP     SUB_TT
THRESH_1MIN 0.50
NWS_HGT    WIND 10.00
** Primary Surface Characteristics (AERSURFACE 26135)
AERSURF    kjan_2021_aers_sfc.txt

```

AERMET Stage 2 input – KJAN 2025 (regular; the US variant adds METHOD STABLEBL ADJ_U)*

Station List

City	Station Name	WBAN	Call	Latitude	Longitude	1-min ASOS	Anem. Ht (m)	Upper Air
GREENVILLE	MID DELTA REGIONAL AIRPORT	13939	KGLH	33.477228	- 90.984658	Yes	10	KJAN
GREENWOOD	GREENWOOD-LEFLORE AIRPORT	13978	KGWO	33.496194	- 90.089419	Yes	10	KJAN
GULFPORT	GULFPORT-BILOXI INTERNATIONAL AIRPORT	93874	KGPT	30.412000	- 89.081000	Yes	10	KLIX
HATTIESBURG	BOBBY L CHAIN MUNICIPAL AIRPORT	13833	KHBG	31.269483	- 89.256108	Yes	10	KJAN
JACKSON	HAWKINS FIELD AIRPORT	13927	KHKS	32.337572	- 90.221397	Yes	10	KJAN
JACKSON	JACKSON INTERNATIONAL AIRPORT	03940	KJAN	32.319836	- 90.077756	Yes	10	KJAN
McCOMB	McCOMB/PIKE COUNTY/JOHN E LEWIS FIELD AIRPORT	93919	KMCB	31.182278	- 90.472025	Yes	10	KJAN
MERIDIAN	KEY FIELD AIRPORT	13865	KMEI	32.334861	- 88.750728	Yes	10	KJAN
PASCAGOULA	TRENT LOTT INTERNATIONAL AIRPORT	53858	KPQL	30.463058	- 88.531556	Yes	7.92	KLIX
TALLULAH/VICKSBURG	VICKSBURG/TALLULAH REGIONAL AIRPORT	03996	KTVR	32.348000	- 91.030000	Yes	10	KJAN
TUPELO	TUPELO REGIONAL AIRPORT	93862	KTUP	34.262131	- 88.771161	Yes	10	KJAN
COLUMBUS	GOLDEN TRIANGLE REGIONAL AIRPORT	53893	KGTR	33.456278	- 88.592656	No	10	KJAN
COLUMBUS	COLUMBUS AFB	13825	KCBM	33.652258	- 88.457136	No	10	KJAN
NATCHEZ	NATCHEZ/HARDY (AWOS)	03961	KHEZ	31.615919	- 91.297267	No	10	KJAN
HATTIESBURG	HATTIESBURG LAUREL	53808	KPIB	31.465756	- 89.333464	No	10	KJAN
TUNICA	TUNICA MUNICIPAL AIRPORT	23903	KUTA	34.676575	- 90.343956	No	10	KJAN
MEMPHIS	MEMPHIS INTERNATIONAL AIRPORT	13893	KMEM	35.036472	- 89.971861	Yes	10	KLZK
MOBILE	MOBILE/BATES FIELD	13894	KMOB	30.688222	- 88.245969	Yes	10	KLIX

Table 1 – Meteorological stations included in the 2021-2025 data set

Figure 7 shows the locations of the eighteen meteorological stations across Mississippi and the adjacent cross-border stations at Memphis (KMEM), Mobile (KMOB), and Tallulah/Vicksburg (KTVR).

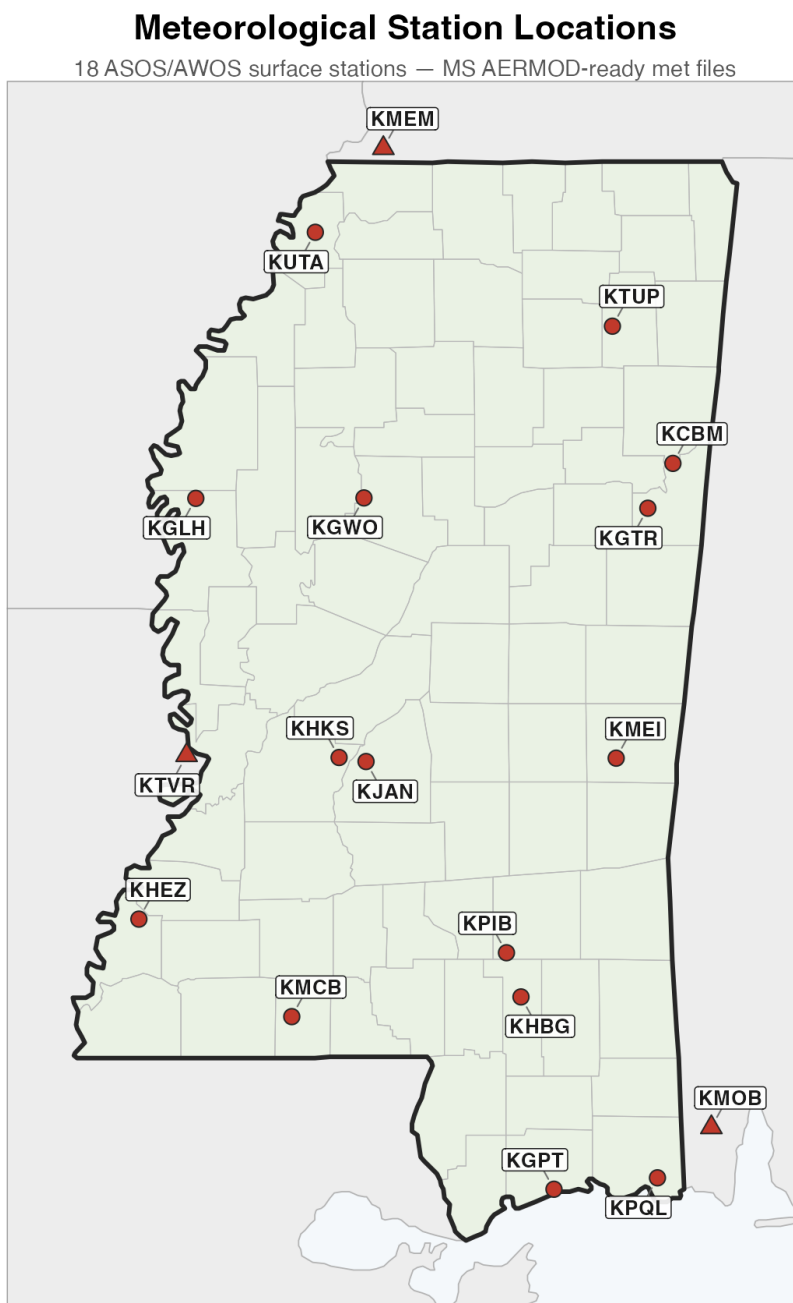


Figure 7 – Meteorological station locations, 2021-2025 data set

Data Completeness

The processed meteorological files were checked for data completeness by quarter against EPA's requirement of 90 percent or greater valid data per quarter. In the heatmap below, quarters that meet the criterion are left unshaded so that attention is drawn only to the quarters that fall short: any quarter below 90 percent is highlighted and shaded by severity, with the deepest red marking the lowest completeness. Values span Q1 2021 through Q4 2025 for all eighteen stations.

Quarterly Data Completeness (%), 2021-2025

Only quarters below the EPA criterion of 90% per quarter are highlighted

KCBM	96	97	99	99	99	100	99	98	93	71	79	98	97	97	96	99	98	98	91	98
KGLH	100	94	100	100	100	98	99	100	99	98	100	100	100	100	98	100	100	100	94	80
KGPT	100	100	100	100	99	100	100	100	99	98	99	100	100	99	99	99	99	100	94	99
KGTR	97	96	94	97	96	93	91	96	97	89	92	95	97	94	89	97	98	95	89	96
KGWO	100	99	100	100	100	100	100	100	100	97	97	99	99	96	96	99	98	98	94	97
KHBG	100	100	100	100	100	100	99	100	100	99	98	100	100	100	99	99	97	99	93	100
KHEZ	96	95	96	97	97	80	94	96	94	94	85	96	96	88	86	93	91	97	88	94
KHKS	100	99	100	99	99	99	100	100	99	98	97	99	94	98	99	98	97	95	92	89
KJAN	100	100	100	100	100	100	100	100	100	99	100	100	100	100	99	99	99	100	95	99
KMCB	100	100	98	100	100	100	100	99	100	98	99	100	99	99	98	100	99	100	92	95
KMEI	100	100	100	100	100	99	100	100	100	99	100	100	100	100	100	99	97	90	94	97
KMEM	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	100	96	99
KMOB	100	99	100	100	100	100	98	99	99	96	98	98	99	100	98	98	95	99	92	96
KPIB	94	92	91	93	93	83	82	91	91	88	84	90	94	92	88	82	83	92	85	89
KPQL	99	99	99	100	100	99	100	98	99	94	96	100	100	98	98	99	100	100	92	99
KTUP	100	99	99	100	100	99	96	100	100	97	98	100	99	99	96	97	94	96	88	98
KTVR	97	100	100	100	100	100	96	97	99	92	96	100	100	85	96	97	99	100	94	98
KUTA	100	99	53	97	93	57	99	99	95	98	99	99	99	94	98	99	99	98	92	98
	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2025 Q1	2025 Q2	2025 Q3	2025 Q4

*Table 3 – Data completeness by quarter (%), 2021-2025*

Late-2025 completeness at several smaller airports reflects reduced observation counts in the GHCNh archive during the transition period following the discontinuation of ISHD in August 2025; this is a characteristic of the source archive rather than of the processing. Major ASOS stations (Jackson, Memphis, Mobile, Gulfport, and others) pass all twenty quarters. Users should review quarters below 90 percent when selecting a station and period for a regulatory application and consider substitute years where appropriate, consistent with Appendix W and regional guidance. Annual completeness by station is summarized below.

Station	2021	2022	2023	2024	2025
KCBM	97.7%	98.8%	85.2%	97.4%	96.2%
KGLH	98.4%	99.2%	99.0%	99.1%	93.2%
KGPT	99.8%	99.7%	99.0%	99.3%	97.9%
KGTR	96.0%	94.1%	93.3%	94.0%	94.8%
KGWO	99.7%	99.9%	98.3%	97.6%	96.4%
KHBG	99.8%	99.7%	99.0%	99.4%	97.2%
KHEZ	96.0%	91.8%	92.0%	91.1%	92.3%
KHKS	99.6%	99.5%	98.3%	97.5%	93.1%
KJAN	99.8%	100.0%	99.6%	99.4%	98.1%
KMCB	99.2%	99.7%	99.0%	99.0%	96.6%
KMEI	99.7%	99.5%	99.5%	99.7%	94.5%
KMEM	99.7%	99.9%	99.5%	99.8%	98.6%
KMOB	99.8%	99.2%	97.8%	98.6%	95.4%
KPIB	92.3%	87.2%	88.2%	89.0%	87.2%
KPQL	99.2%	99.4%	97.2%	98.7%	97.8%
KTUP	99.5%	98.8%	98.4%	97.7%	94.2%
KTVR	99.1%	98.2%	96.8%	94.4%	97.7%
KUTA	87.1%	87.1%	97.9%	97.7%	96.7%

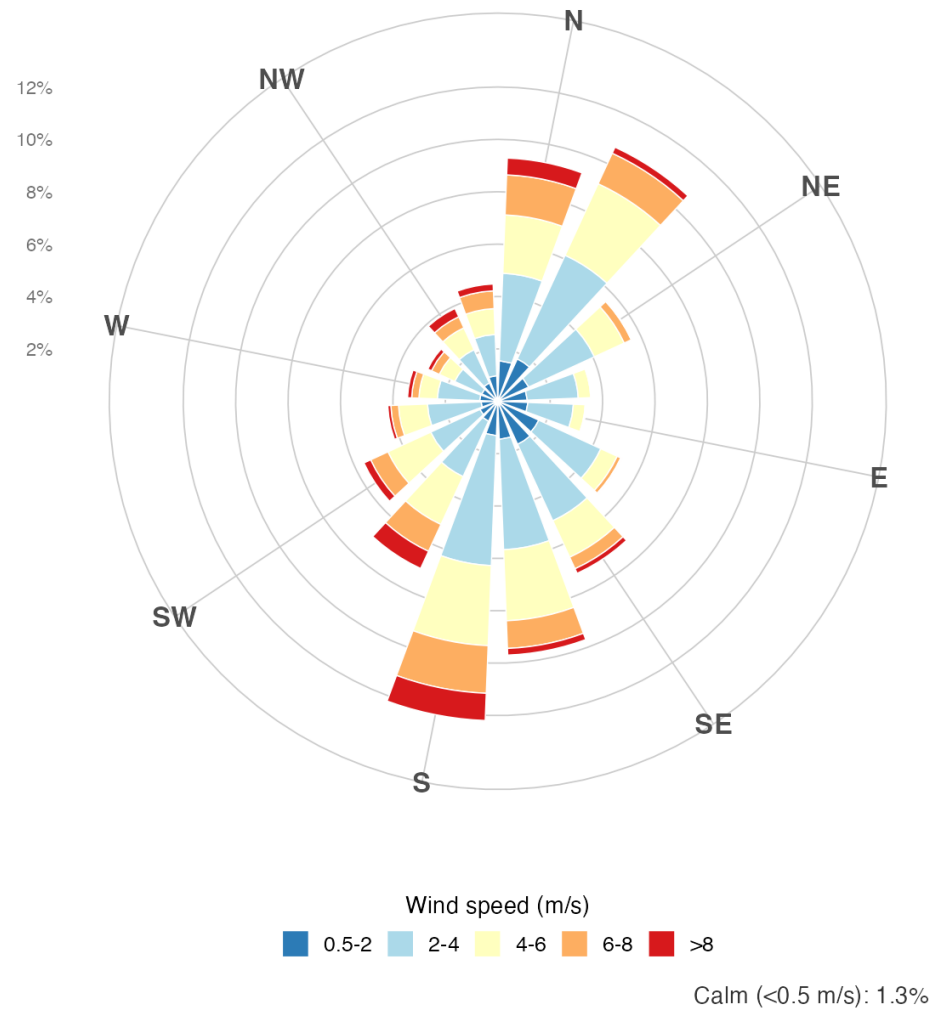
Table 4 – Annual data completeness (%); shaded cells fall below 90%

Station Wind Roses (2021-2025)

Five-year wind roses generated from the processed surface files are presented below for each station. Petals indicate the direction from which the wind blows, as a percentage of all valid hours; calm hours (wind speed below 0.5 m/s) are noted on each figure. A comprehensive graphical report (wind roses, temperature and wind climatology, mixing heights, stability, and completeness) is included as a PDF inside each station's download package.

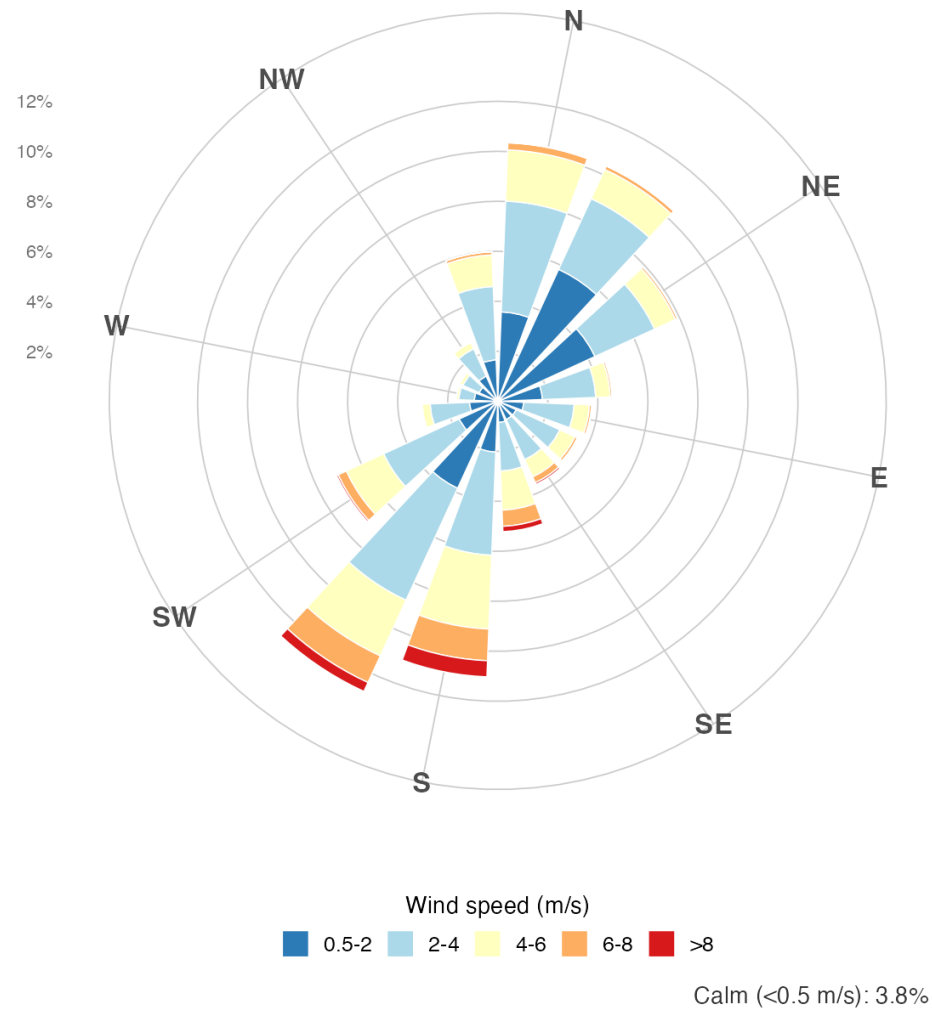
City	Station Name	WBAN	Call	Latitude	Longitude
GREENVILLE	MID DELTA REGIONAL AIRPORT	13939	KGLH	33.477228	-90.984658

KGLH Wind Rose, 2021-2025



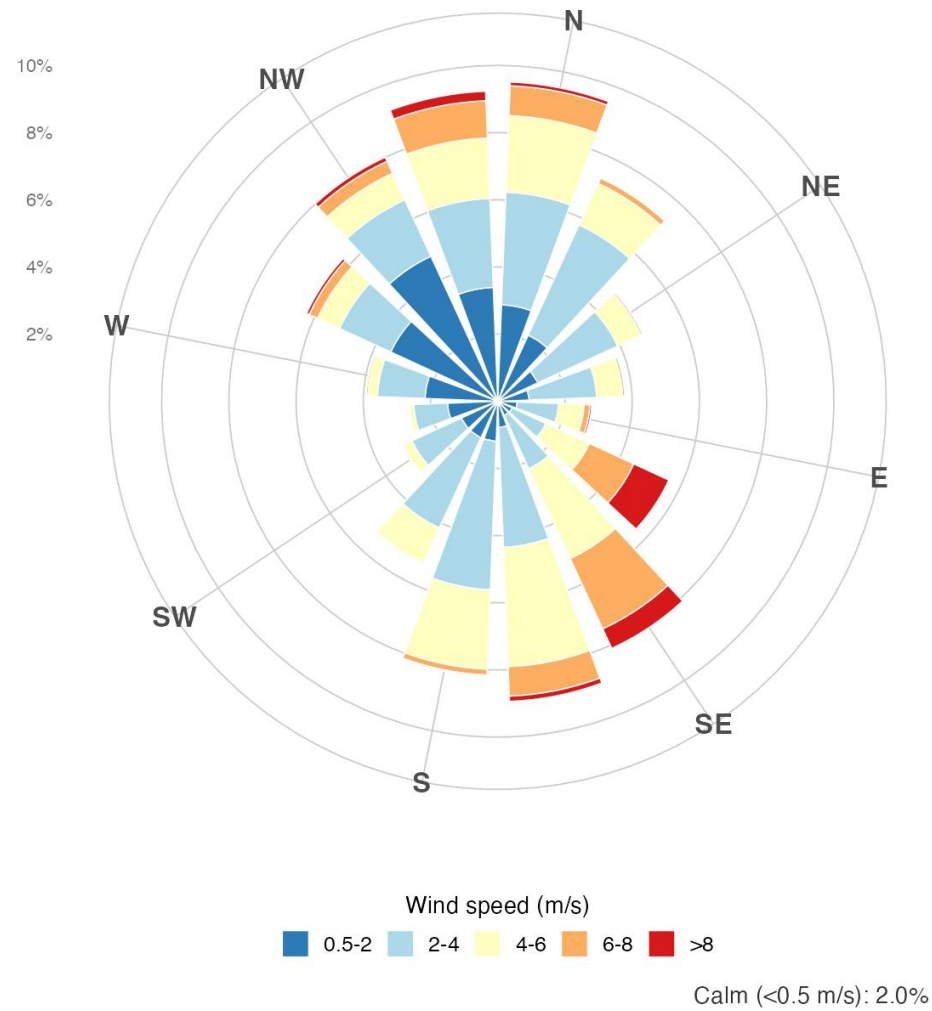
City	Station Name	WBAN	Call	Latitude	Longitude
GREENWOOD	GREENWOOD-LEFLORE AIRPORT	13978	KGWO	33.496194	-90.089419

KGWO Wind Rose, 2021-2025



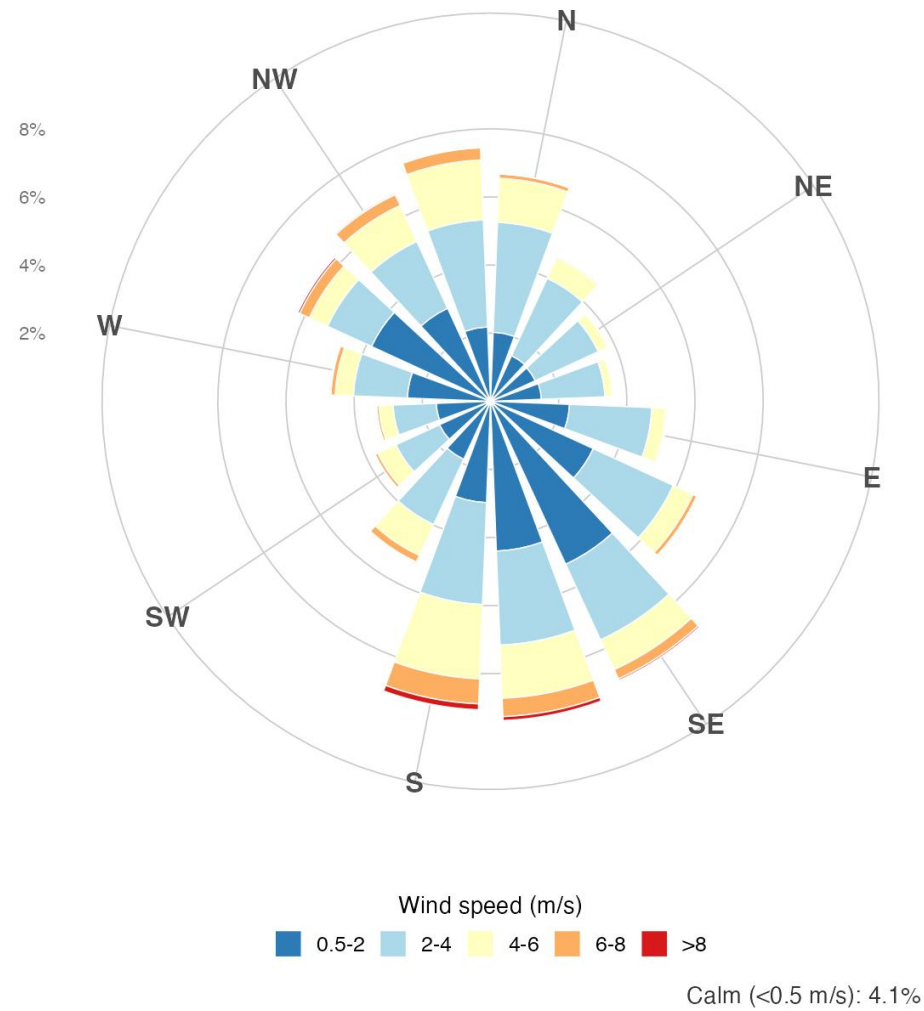
City	Station Name	WBAN	Call	Latitude	Longitude
GULFPORT	GULFPORT-BILOXI INTERNATIONAL AIRPORT	93874	KGPT	30.412000	-89.081000

KGPT Wind Rose, 2021-2025



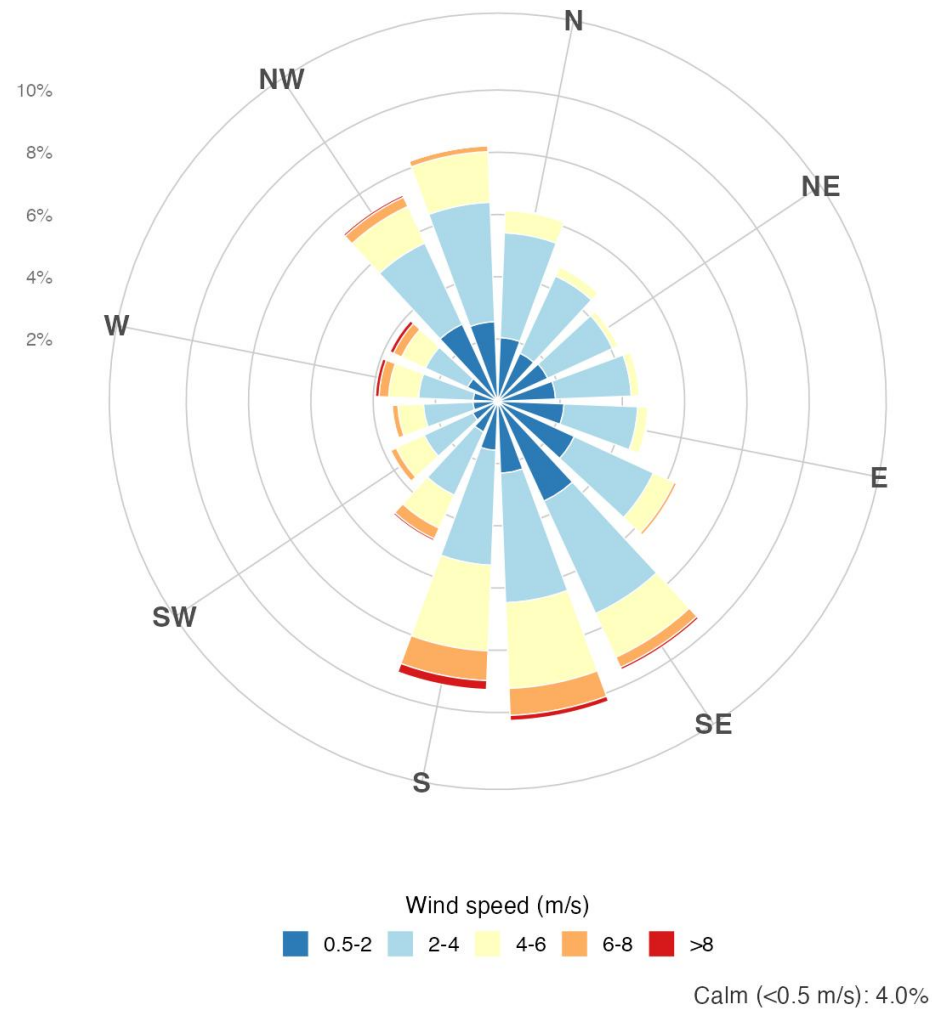
City	Station Name	WBAN	Call	Latitude	Longitude
HATTIESBURG	BOBBY L CHAIN MUNICIPAL AIRPORT	13833	KHBG	31.269483	-89.256108

KHBG Wind Rose, 2021-2025



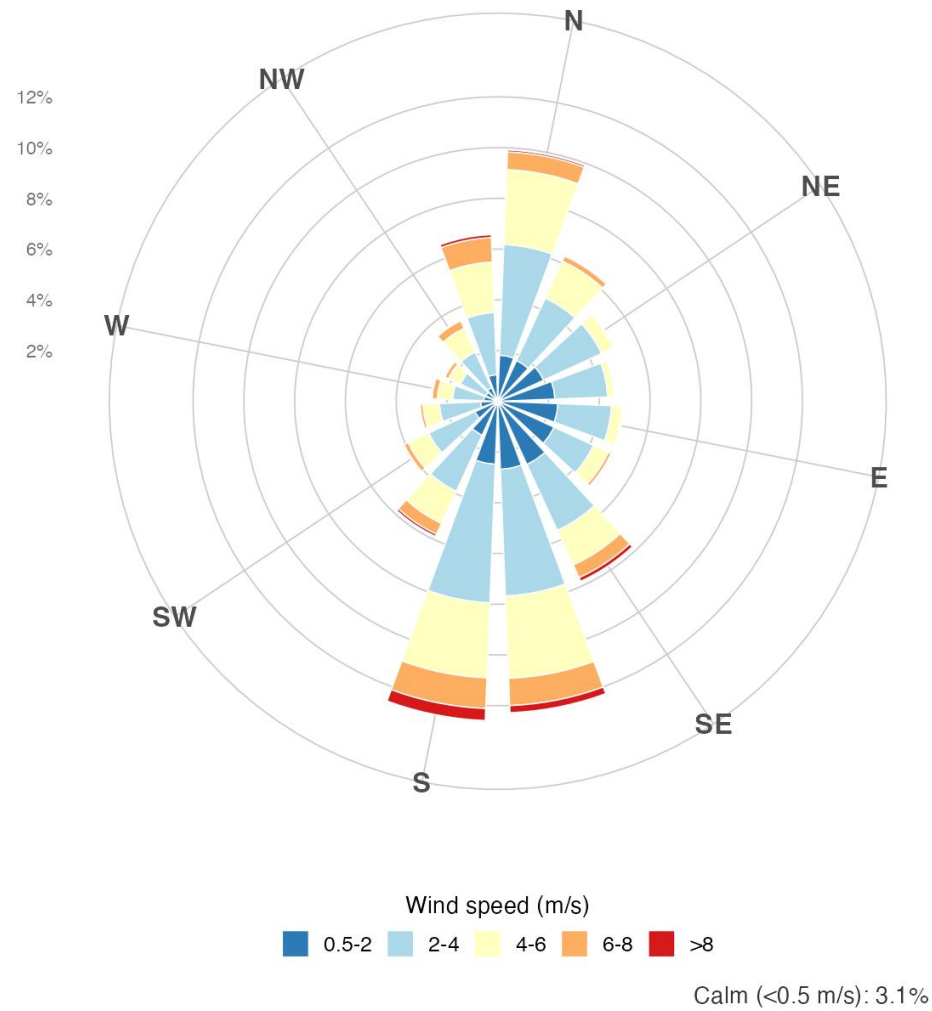
City	Station Name	WBAN	Call	Latitude	Longitude
JACKSON	HAWKINS FIELD AIRPORT	13927	KHKS	32.337572	-90.221397

KHKS Wind Rose, 2021-2025



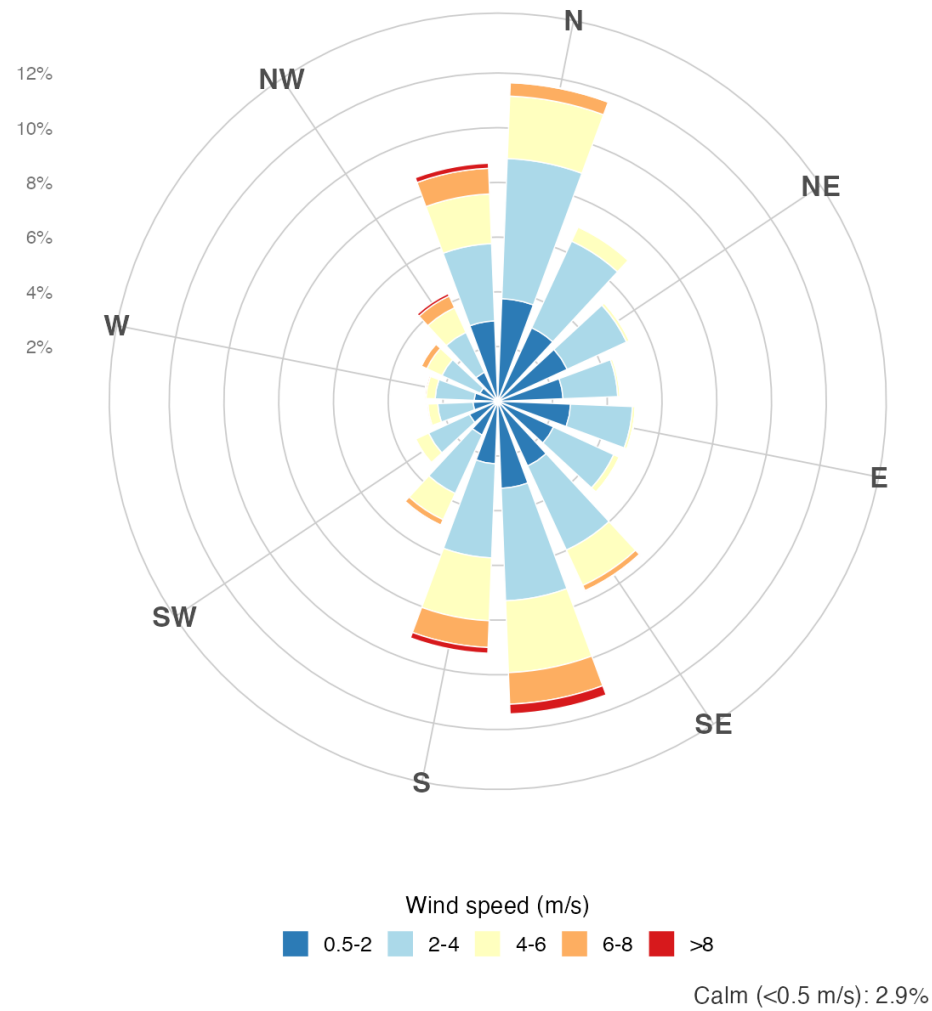
City	Station Name	WBAN	Call	Latitude	Longitude
JACKSON	JACKSON INTERNATIONAL AIRPORT	03940	KJAN	32.319836	-90.077756

KJAN Wind Rose, 2021-2025



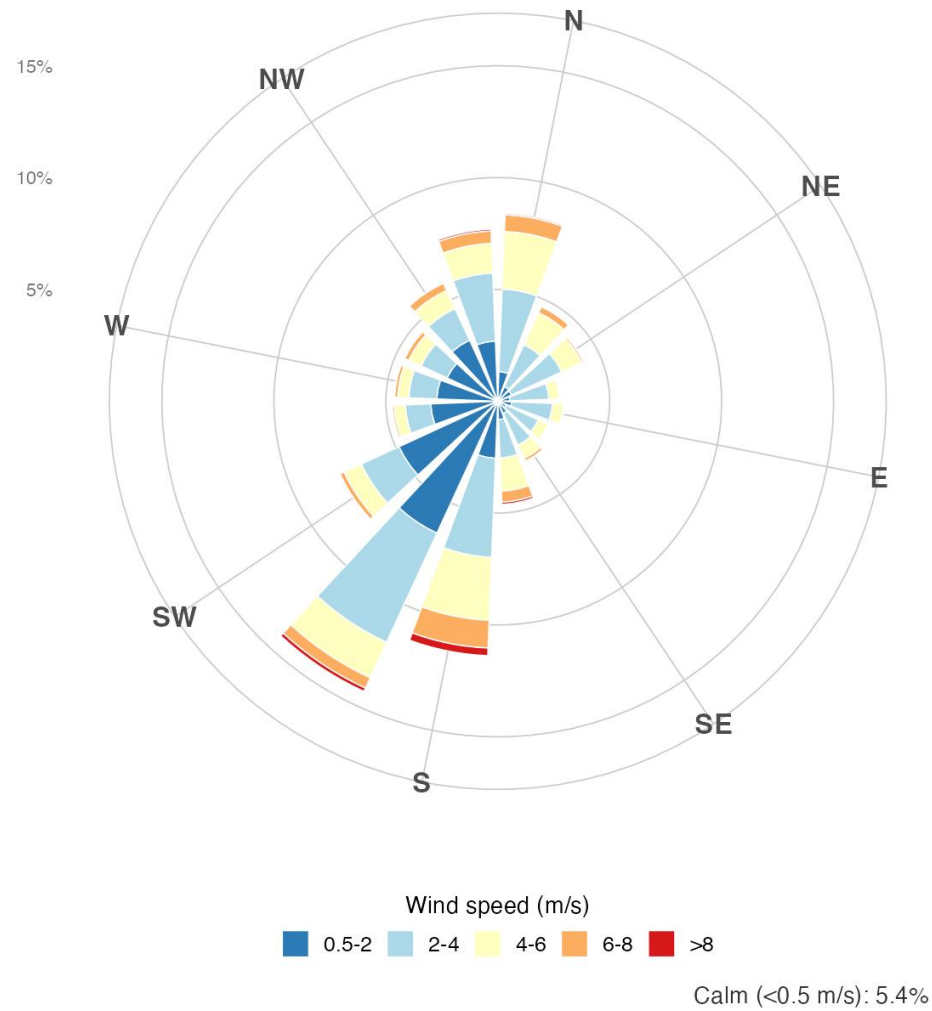
City	Station Name	WBAN	Call	Latitude	Longitude
McCOMB	McCOMB/PIKE COUNTY/JOHN E LEWIS FIELD AIRPORT	93919	KMCB	31.182278	-90.472025

KMCB Wind Rose, 2021-2025



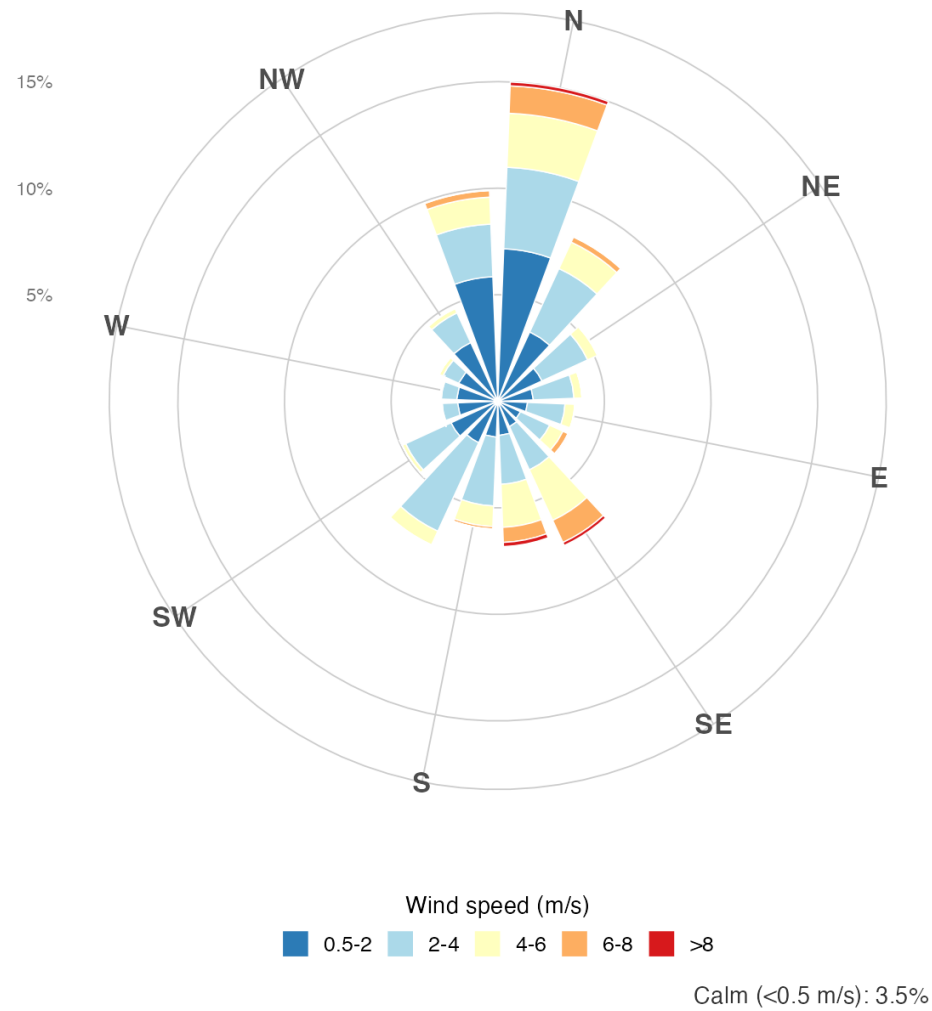
City	Station Name	WBAN	Call	Latitude	Longitude
MERIDIAN	KEY FIELD AIRPORT	13865	KMEI	32.334861	-88.750728

KMEI Wind Rose, 2021-2025



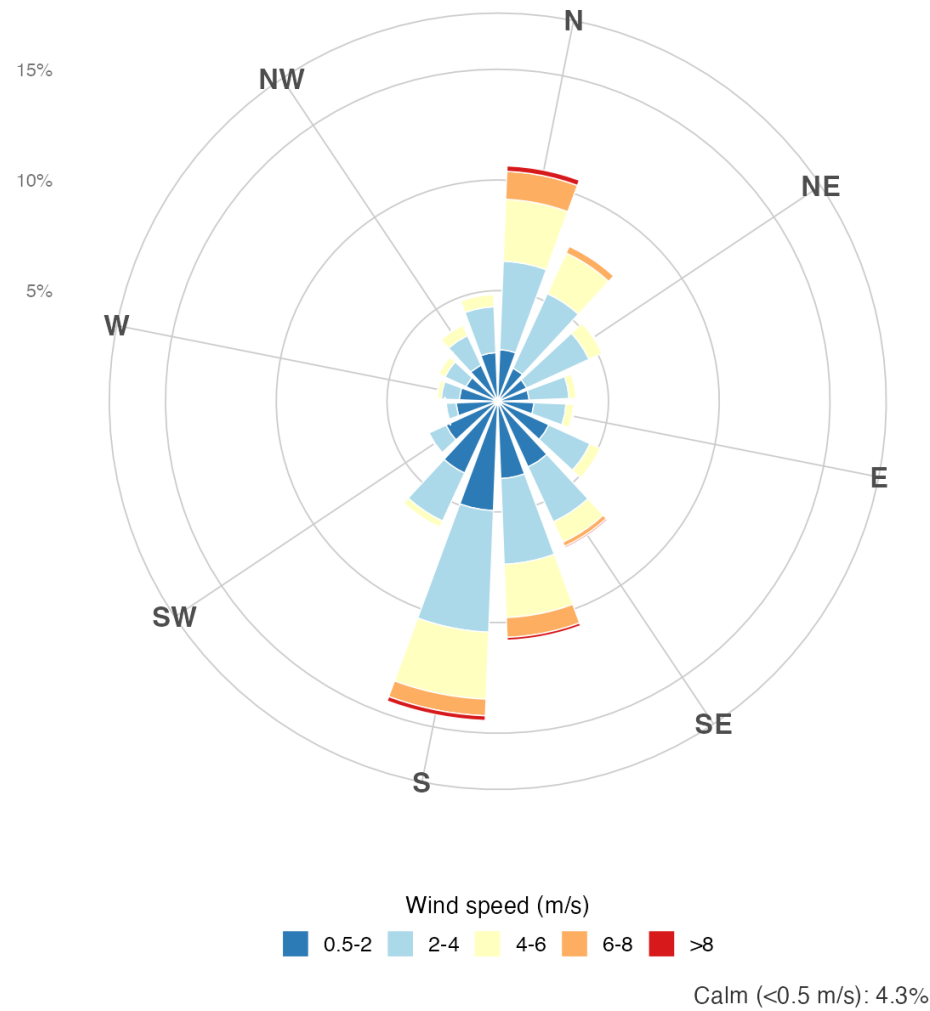
City	Station Name	WBAN	Call	Latitude	Longitude
PASCAGOULA	TRENT LOTT INTERNATIONAL AIRPORT	53858	KPQL	30.463058	-88.531556

KPQL Wind Rose, 2021-2025



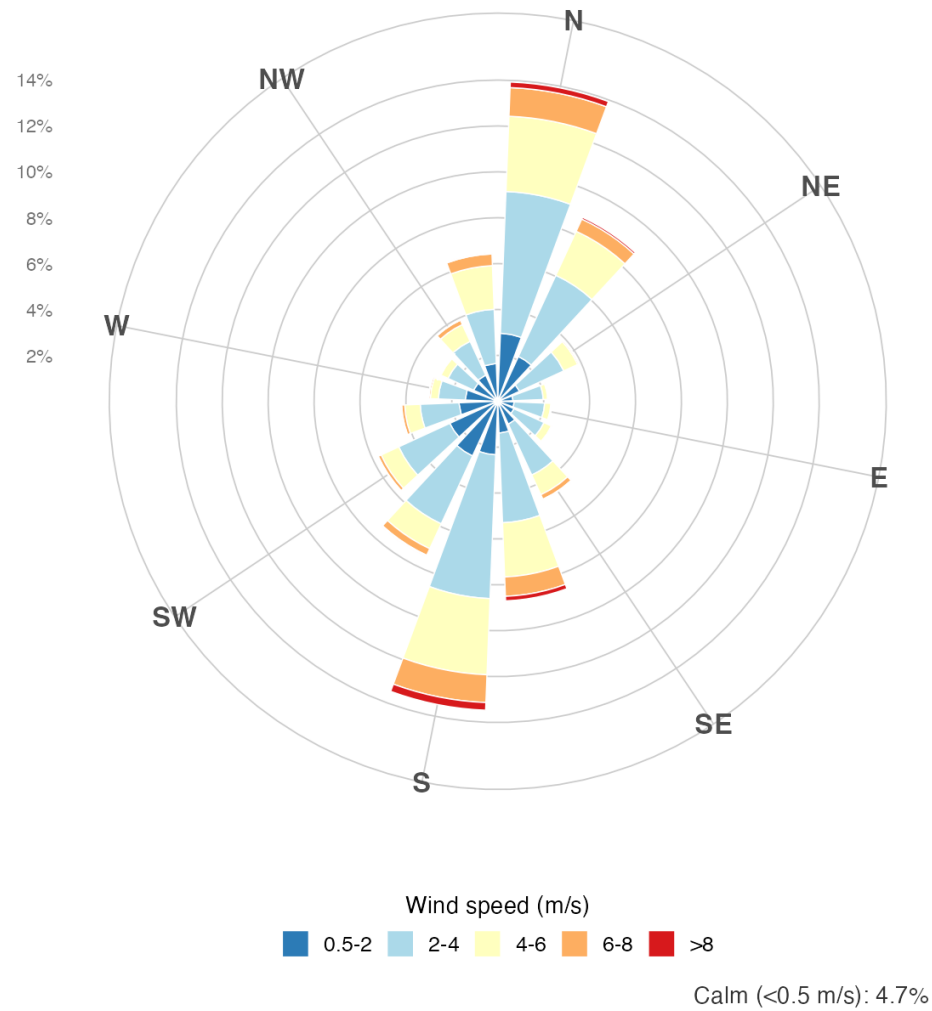
City	Station Name	WBAN	Call	Latitude	Longitude
TALLULAH/VICKSBURG	VICKSBURG/TALLULAH REGIONAL AIRPORT	03996	KTVR	32.348000	-91.030000

KTVR Wind Rose, 2021-2025



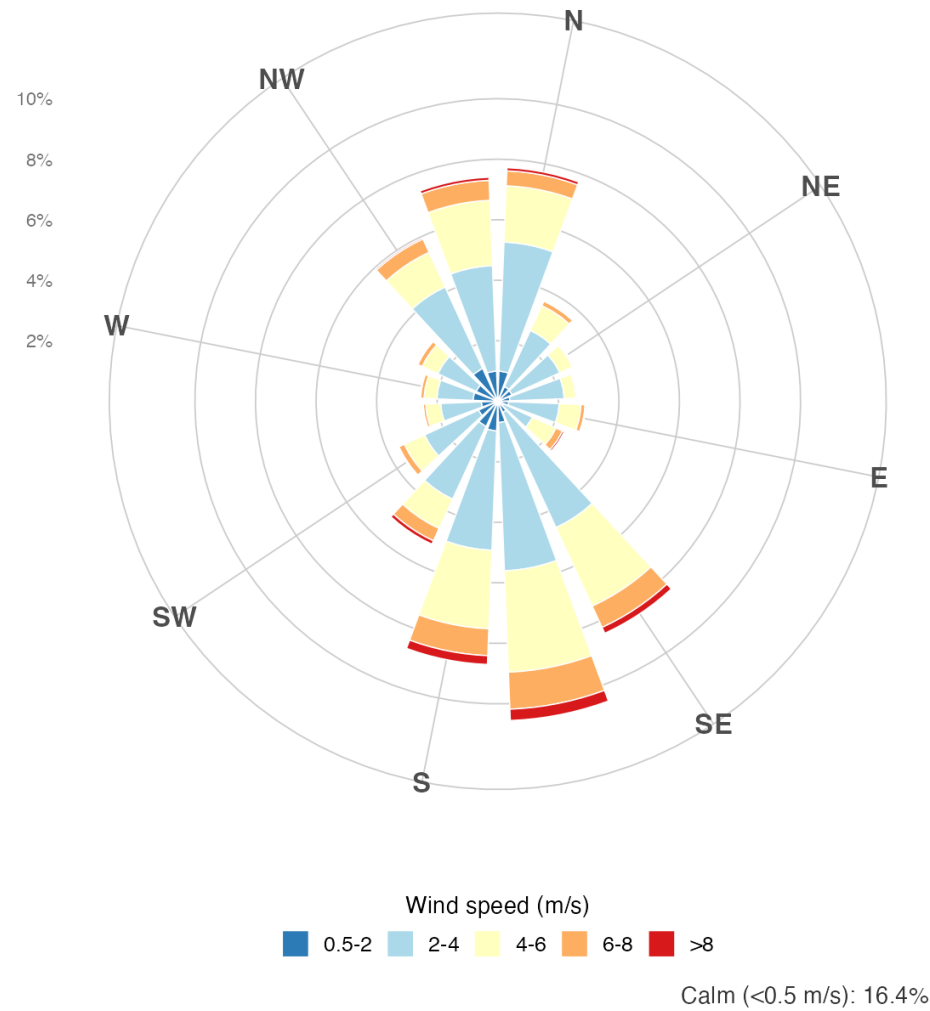
City	Station Name	WBAN	Call	Latitude	Longitude
TUPELO	TUPELO REGIONAL AIRPORT	93862	KTUP	34.262131	-88.771161

KTUP Wind Rose, 2021-2025



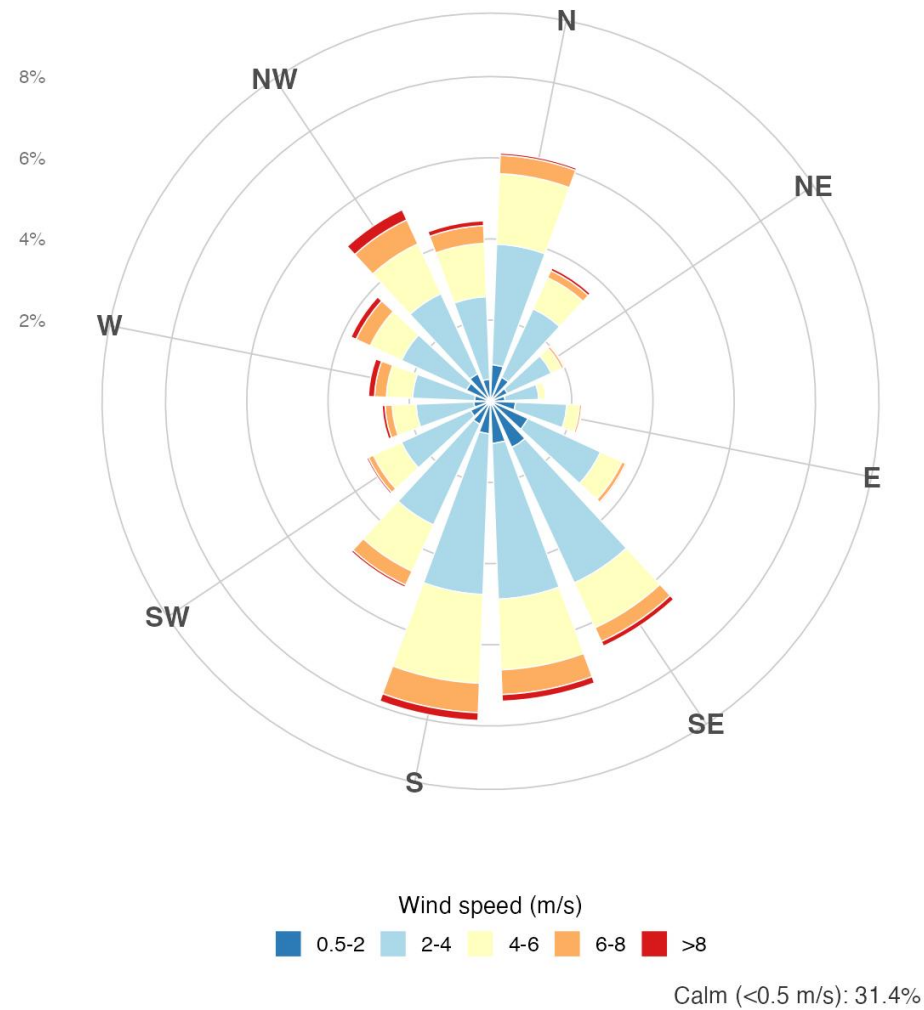
City	Station Name	WBAN	Call	Latitude	Longitude
COLUMBUS	GOLDEN TRIANGLE REGIONAL AIRPORT	53893	KGTR	33.456278	-88.592656

KGTR Wind Rose, 2021-2025



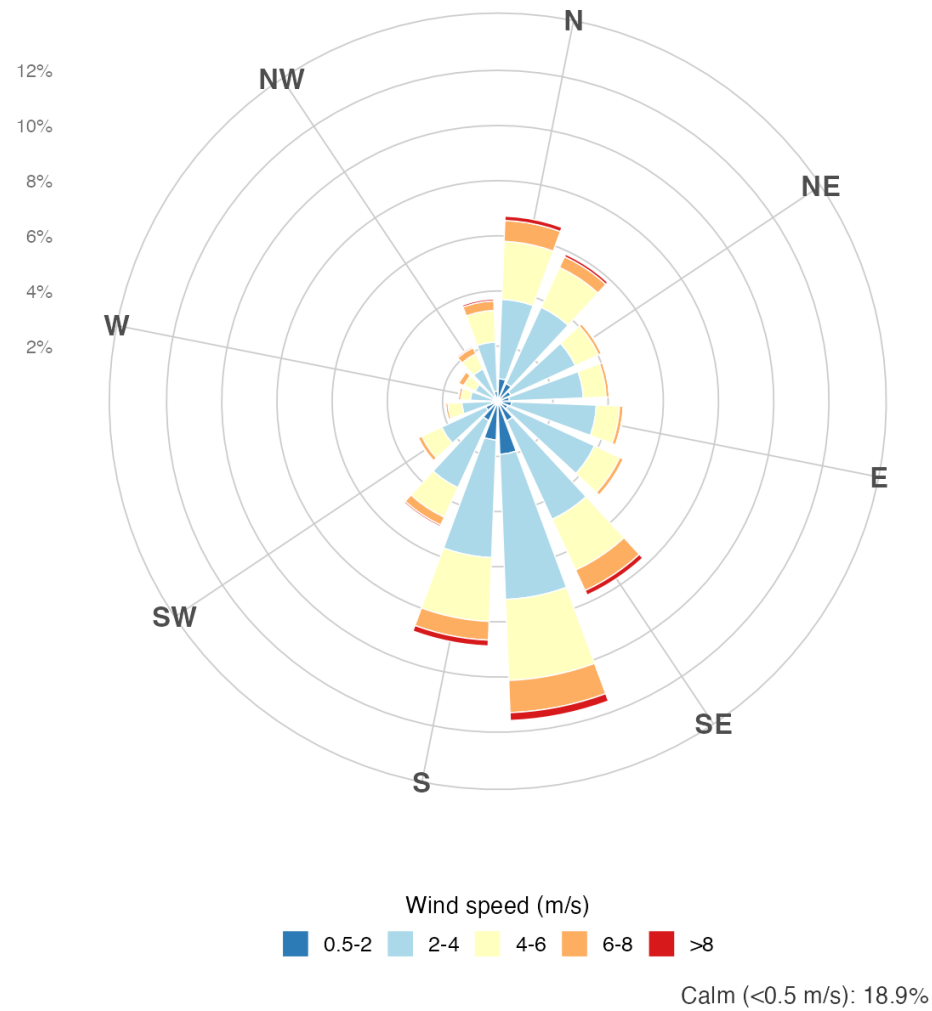
City	Station Name	WBAN	Call	Latitude	Longitude
COLUMBUS	COLUMBUS AFB	13825	KCBM	33.652258	-88.457136

KCBM Wind Rose, 2021-2025



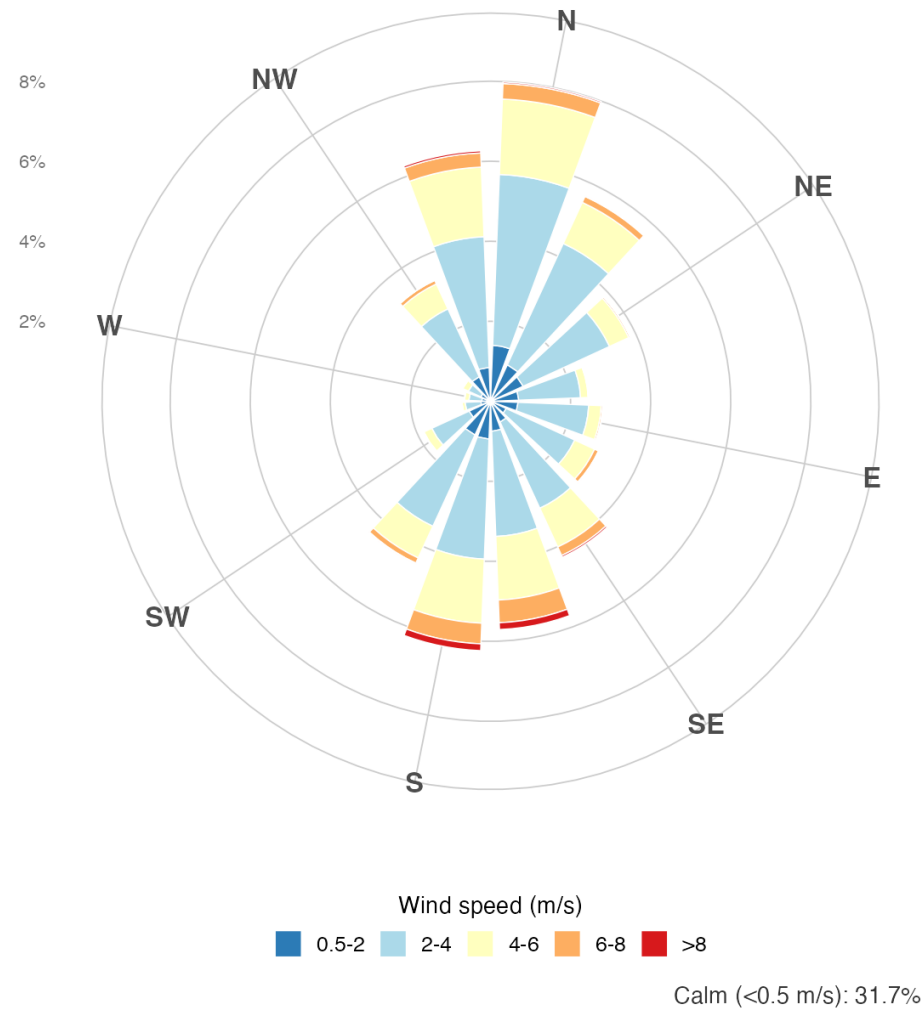
City	Station Name	WBAN	Call	Latitude	Longitude
NATCHEZ	NATCHEZ/HARDY (AWOS)	03961	KHEZ	31.615919	-91.297267

KHEZ Wind Rose, 2021-2025



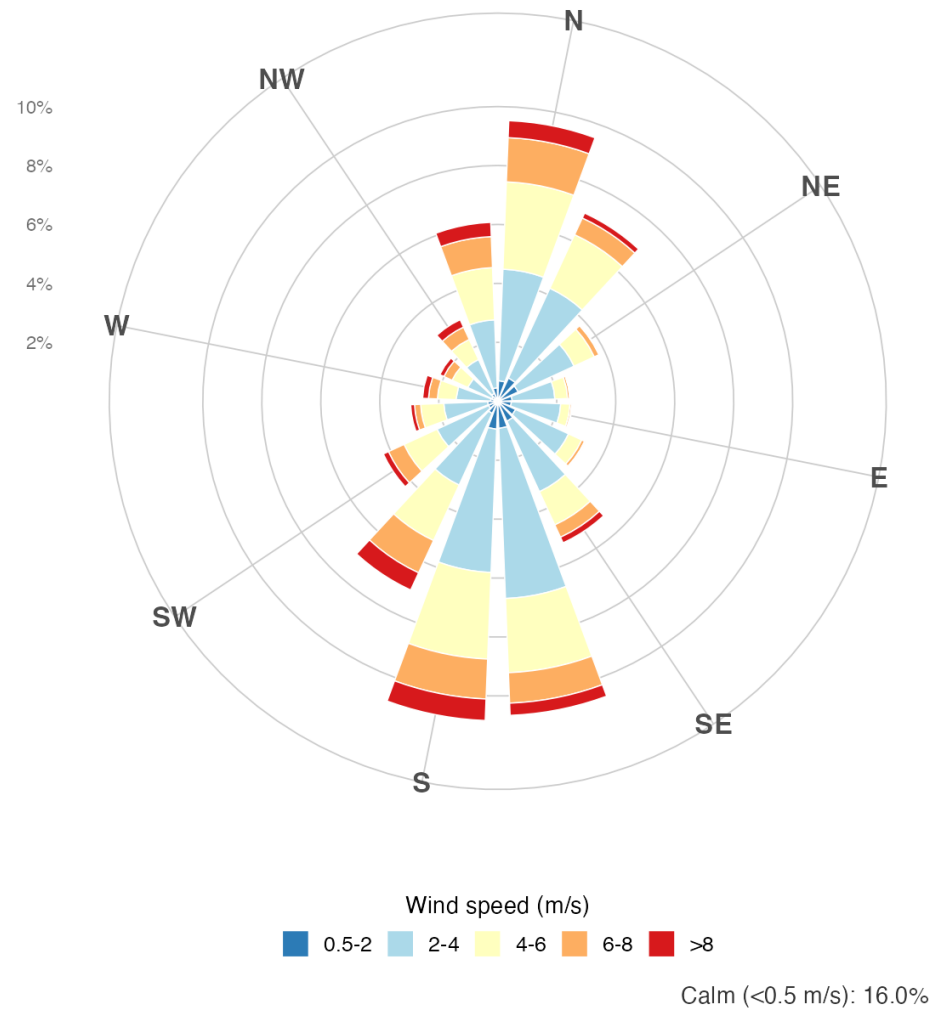
City	Station Name	WBAN	Call	Latitude	Longitude
HATTIESBURG	HATTIESBURG LAUREL	53808	KPIB	31.465756	-89.333464

KPIB Wind Rose, 2021-2025



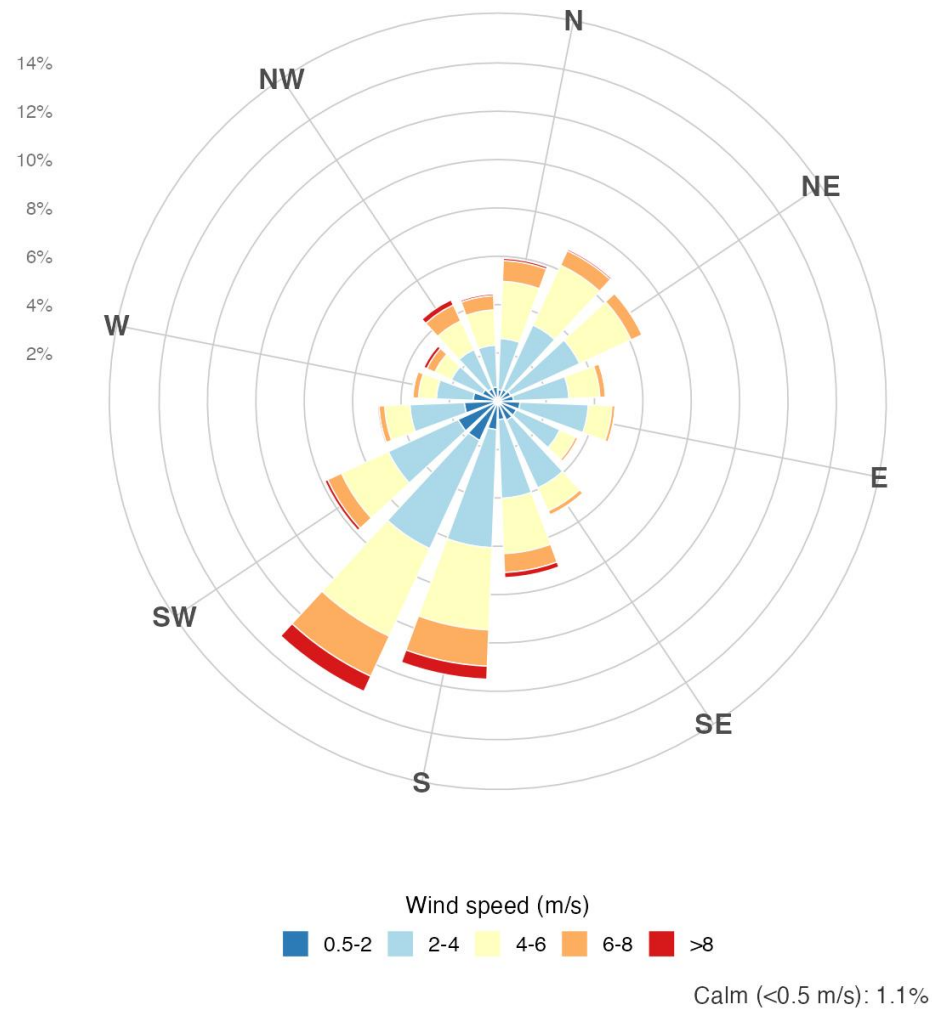
City	Station Name	WBAN	Call	Latitude	Longitude
TUNICA	TUNICA MUNICIPAL AIRPORT	23903	KUTA	34.676575	-90.343956

KUTA Wind Rose, 2021-2025



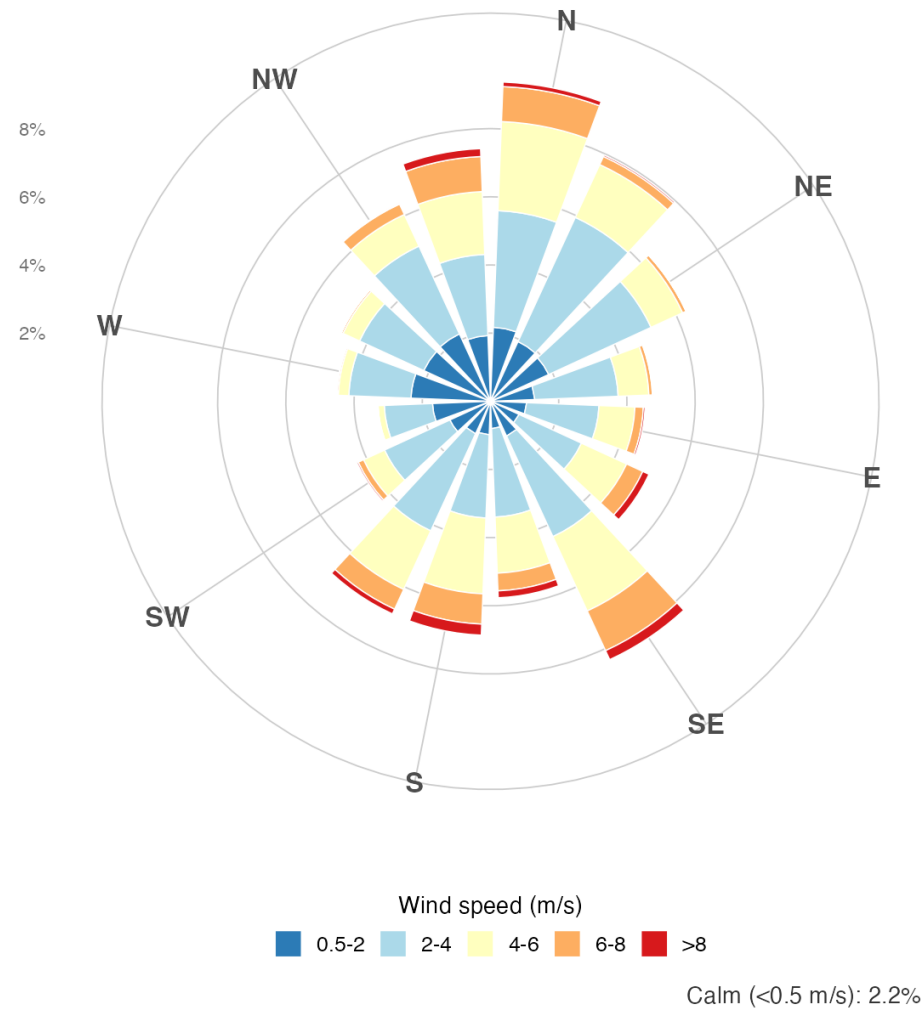
City	Station Name	WBAN	Call	Latitude	Longitude
MEMPHIS	MEMPHIS INTERNATIONAL AIRPORT	13893	KMEM	35.036472	-89.971861

KMEM Wind Rose, 2021-2025



City	Station Name	WBAN	Call	Latitude	Longitude
MOBILE	MOBILE/BATES FIELD	13894	KMOB	30.688222	-88.245969

KMOB Wind Rose, 2021-2025



Airport Aerial Images (1-km Analysis Radius)

Aerial photographs of each airport are presented below with the 1-km AERSURFACE analysis radius (ZORADIUS) circled around the meteorological tower location. These images support the surface roughness calculations and the airport / non-airport sector determinations described in the Surface Characteristics section.

City	Station Name	WBAN	Call	Latitude	Longitude
GREENVILLE	MID DELTA REGIONAL AIRPORT	13939	KGLH	33.477228	-90.984658



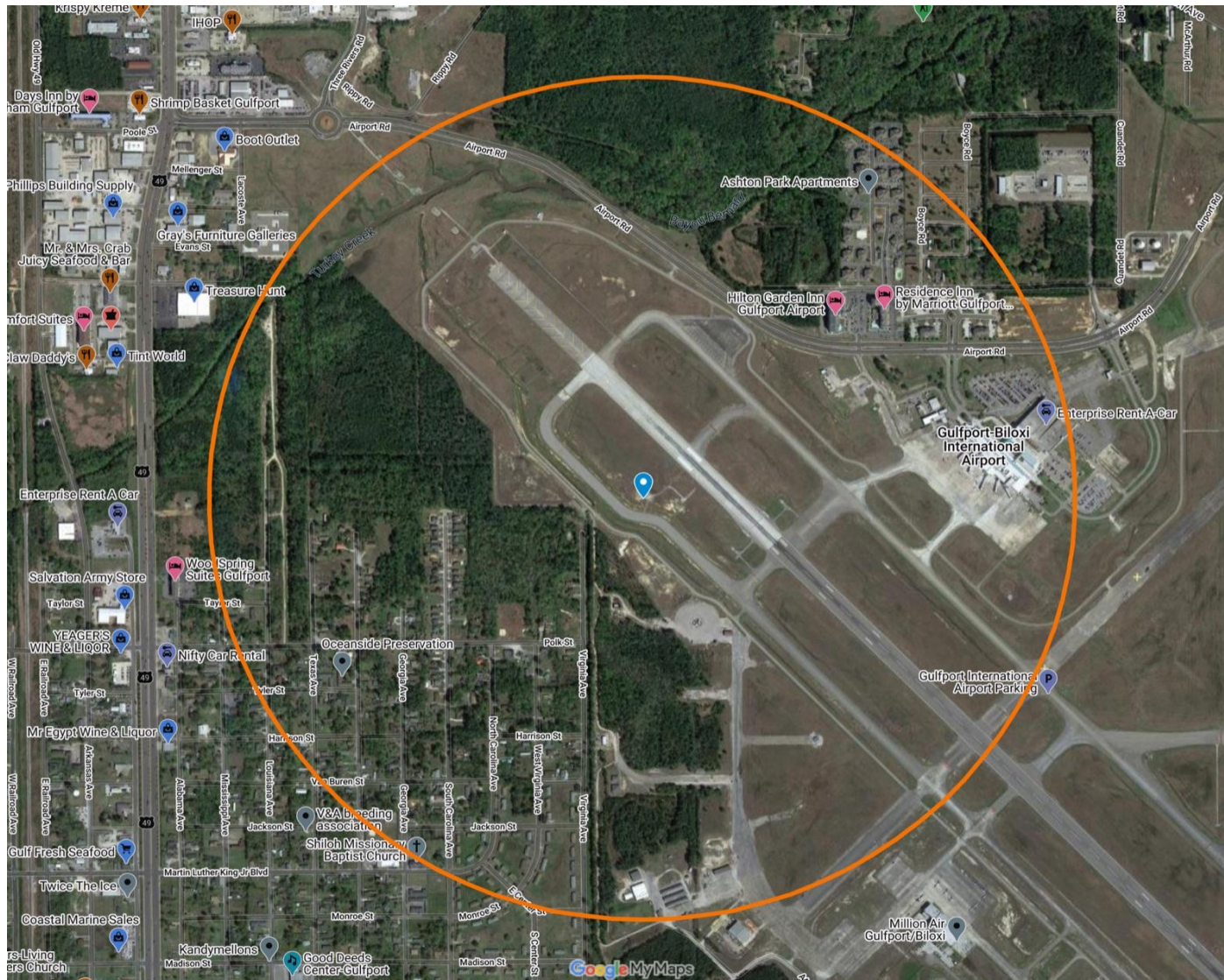
KGLH – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
GREENWOOD	GREENWOOD-LEFLORE AIRPORT	13978	KGWO	33.496194	-90.089419



KGWO – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
GULFPORT	GULFPORT-BILOXI INTERNATIONAL AIRPORT	93874	KGPT	30.412000	-89.081000



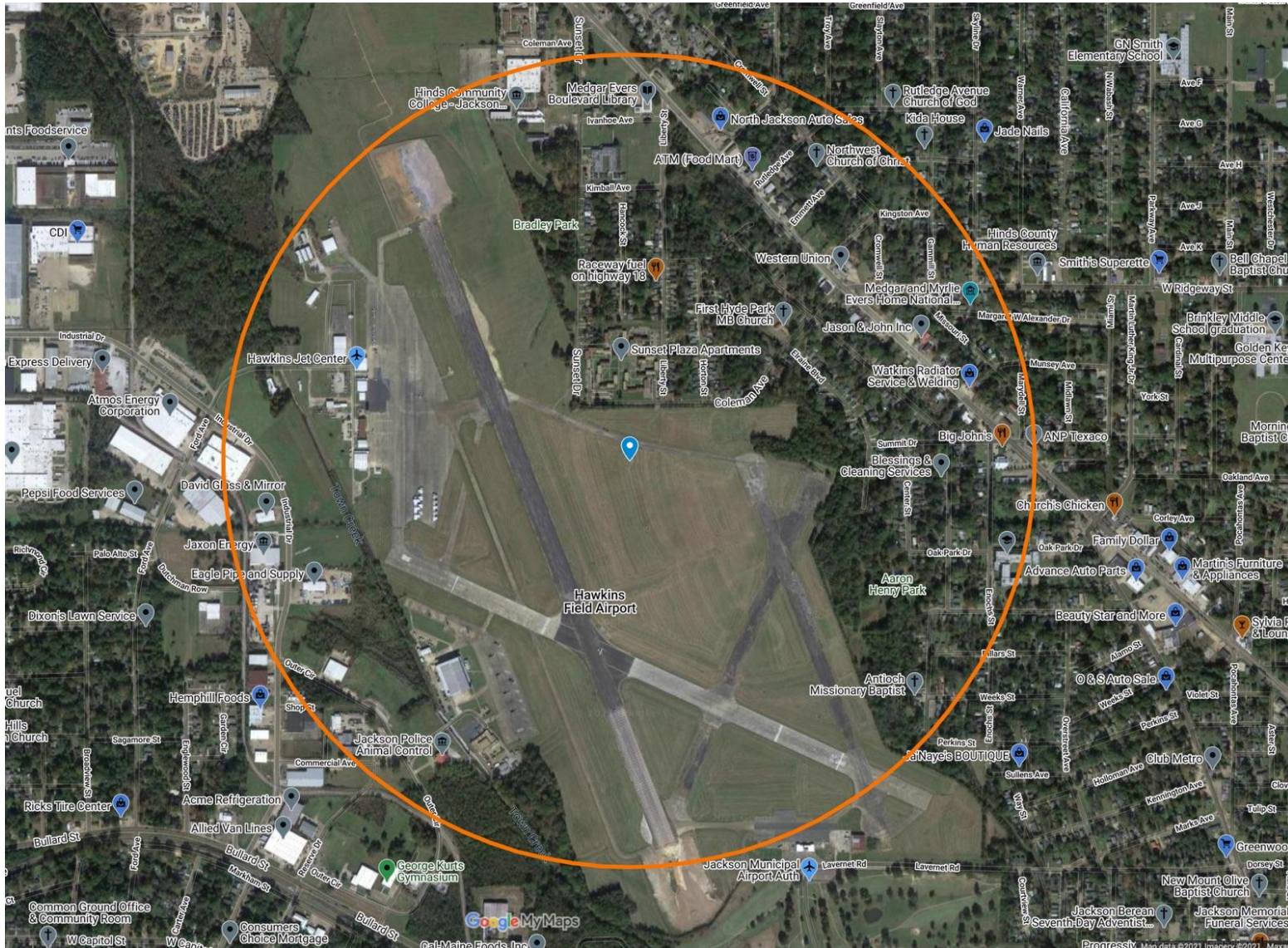
KGPT – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
HATTIESBURG	BOBBY L CHAIN MUNICIPAL AIRPORT	13833	KHBG	31.269483	-89.256108



KHBG – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
JACKSON	HAWKINS FIELD AIRPORT	13927	KHKS	32.337572	-90.221397



KHKS – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
JACKSON	JACKSON INTERNATIONAL AIRPORT	03940	KJAN	32.319836	-90.077756



KJAN – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
McCOMB	McCOMB/PIKE COUNTY/JOHN E LEWIS FIELD AIRPORT	93919	KMCB	31.182278	-90.472025



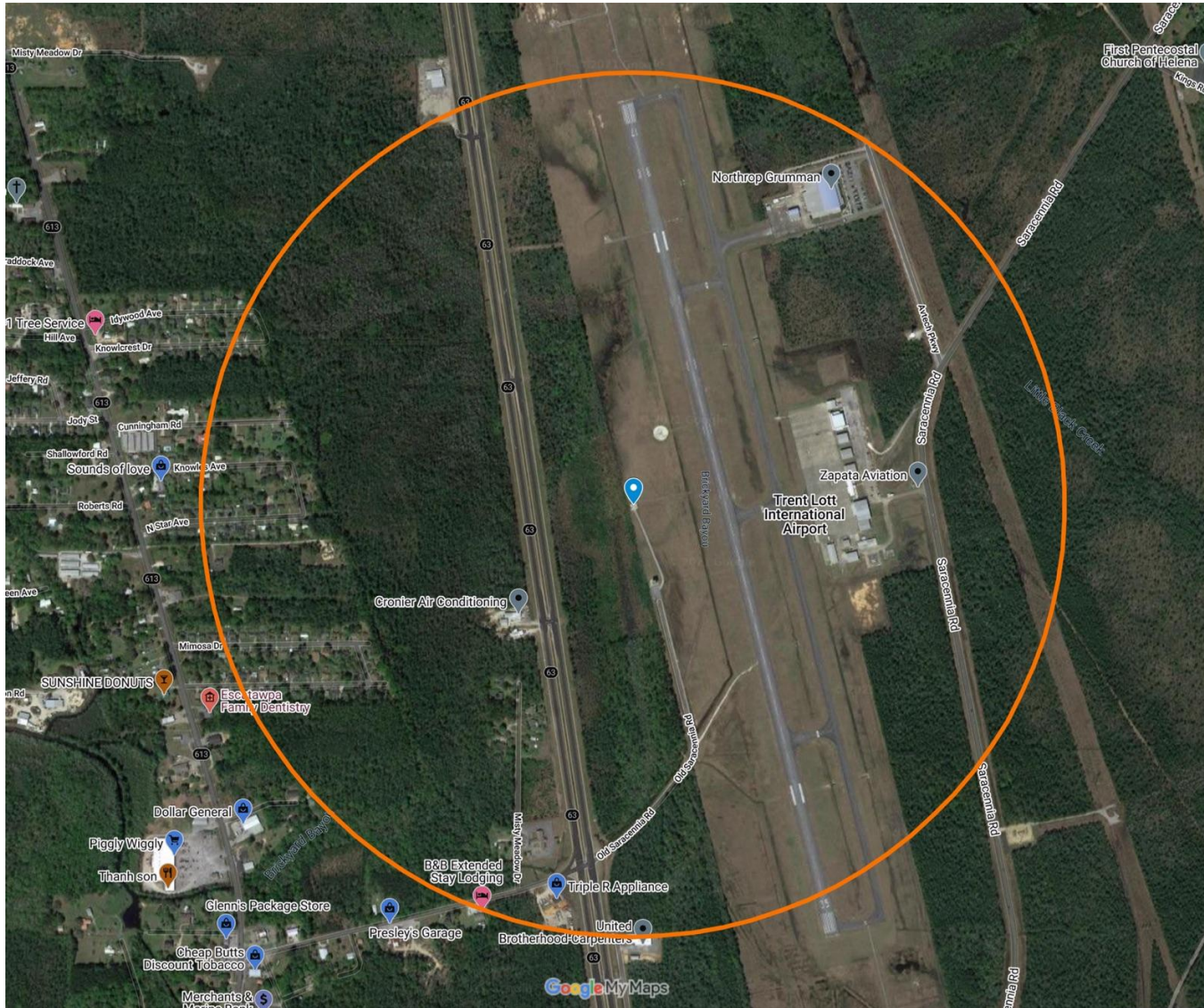
KMCB – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
MERIDIAN	KEY FIELD AIRPORT	13865	KMEI	32.334861	-88.750728



KMEI – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
PASCAGOULA	TRENT LOTT INTERNATIONAL AIRPORT	53858	KPQL	30.463058	-88.531556



KPQL – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
TALLULAH/VICKSBURG	VICKSBURG/TALLULAH REGIONAL AIRPORT	03996	KTVR	32.348000	-91.030000



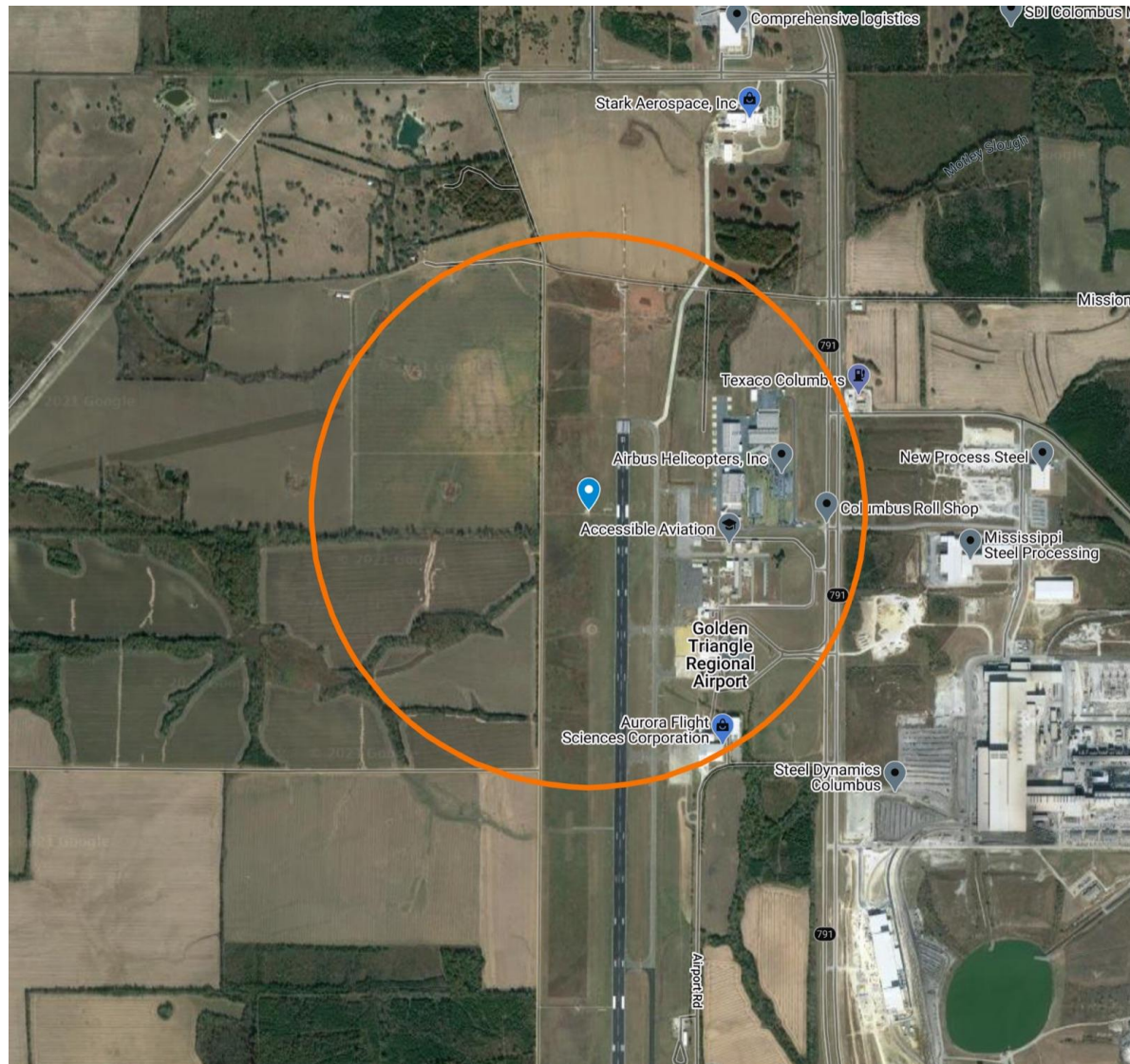
KTVR – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
TUPELO	TUPELO REGIONAL AIRPORT	93862	KTUP	34.262131	-88.771161



KTUP – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
COLUMBUS	GOLDEN TRIANGLE REGIONAL AIRPORT	53893	KGTR	33.456278	-88.592656



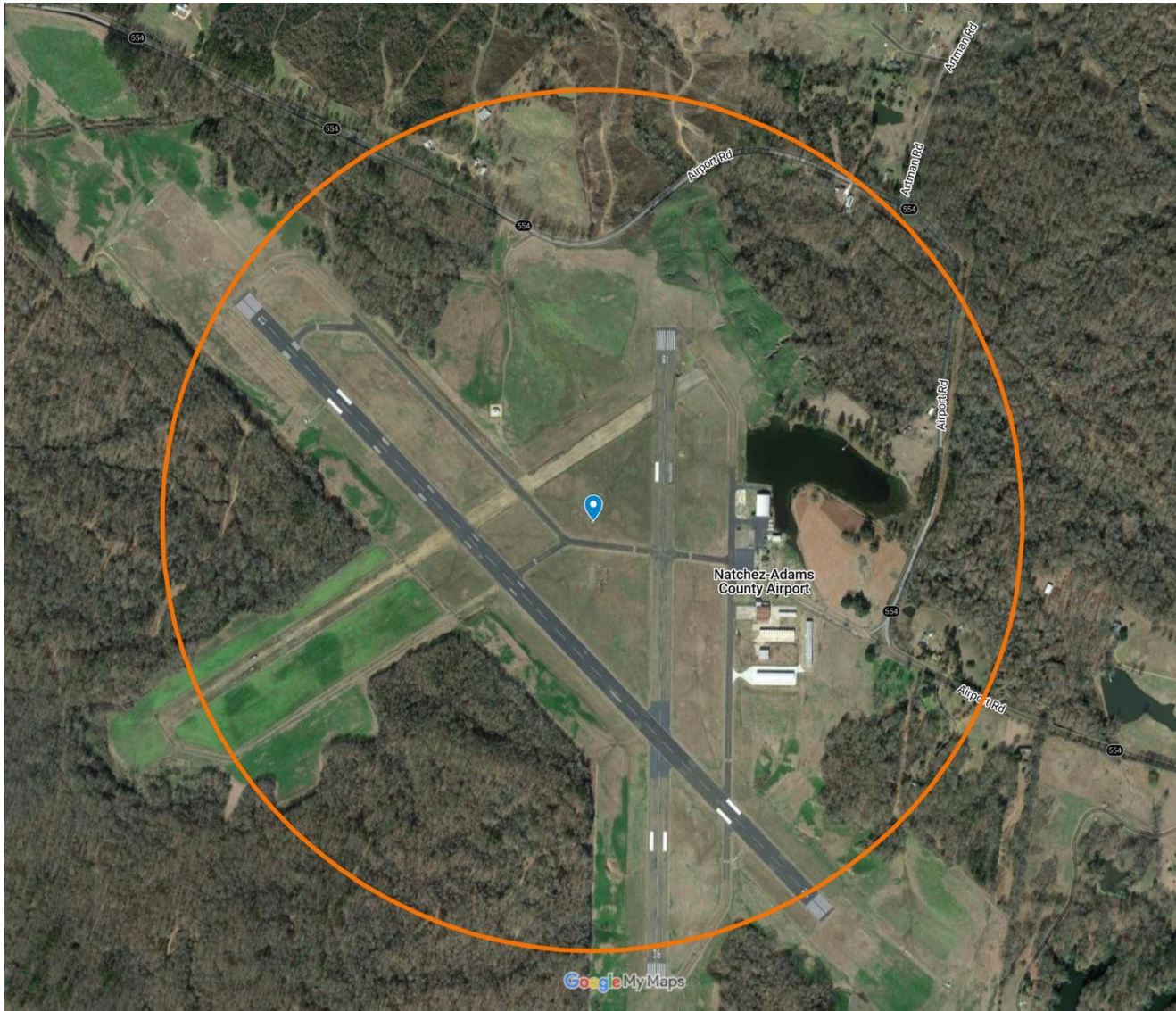
KGTR – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
COLUMBUS	COLUMBUS AFB	13825	KCBM	33.652258	-88.457136



KCBM – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
NATCHEZ	NATCHEZ/HARDY (AWOS)	03961	KHEZ	31.615919	-91.297267



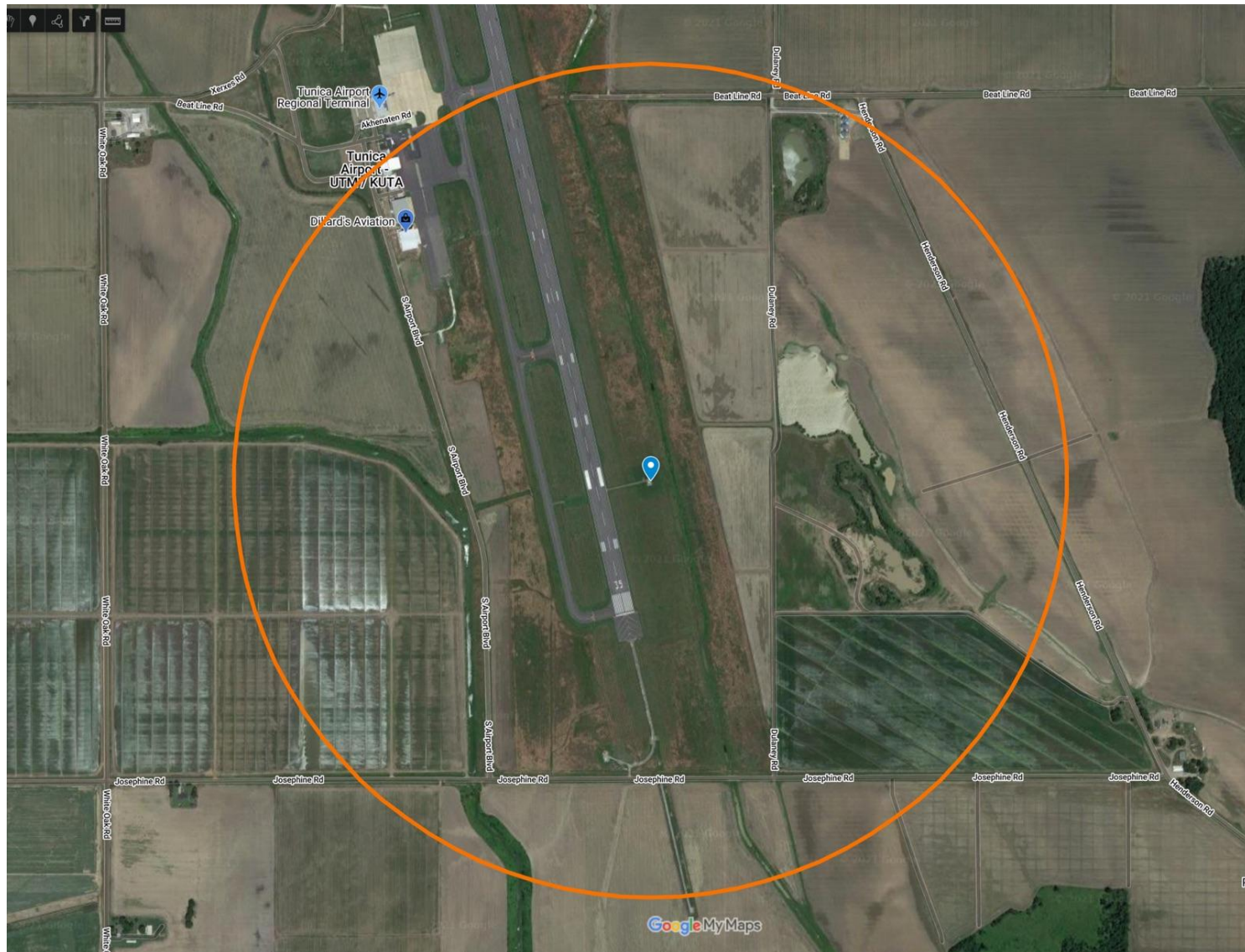
KHEZ – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
HATTIESBURG	HATTIESBURG LAUREL	53808	KPIB	31.465756	-89.333464



KPIB – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
TUNICA	TUNICA MUNICIPAL AIRPORT	23903	KUTA	34.676575	-90.343956



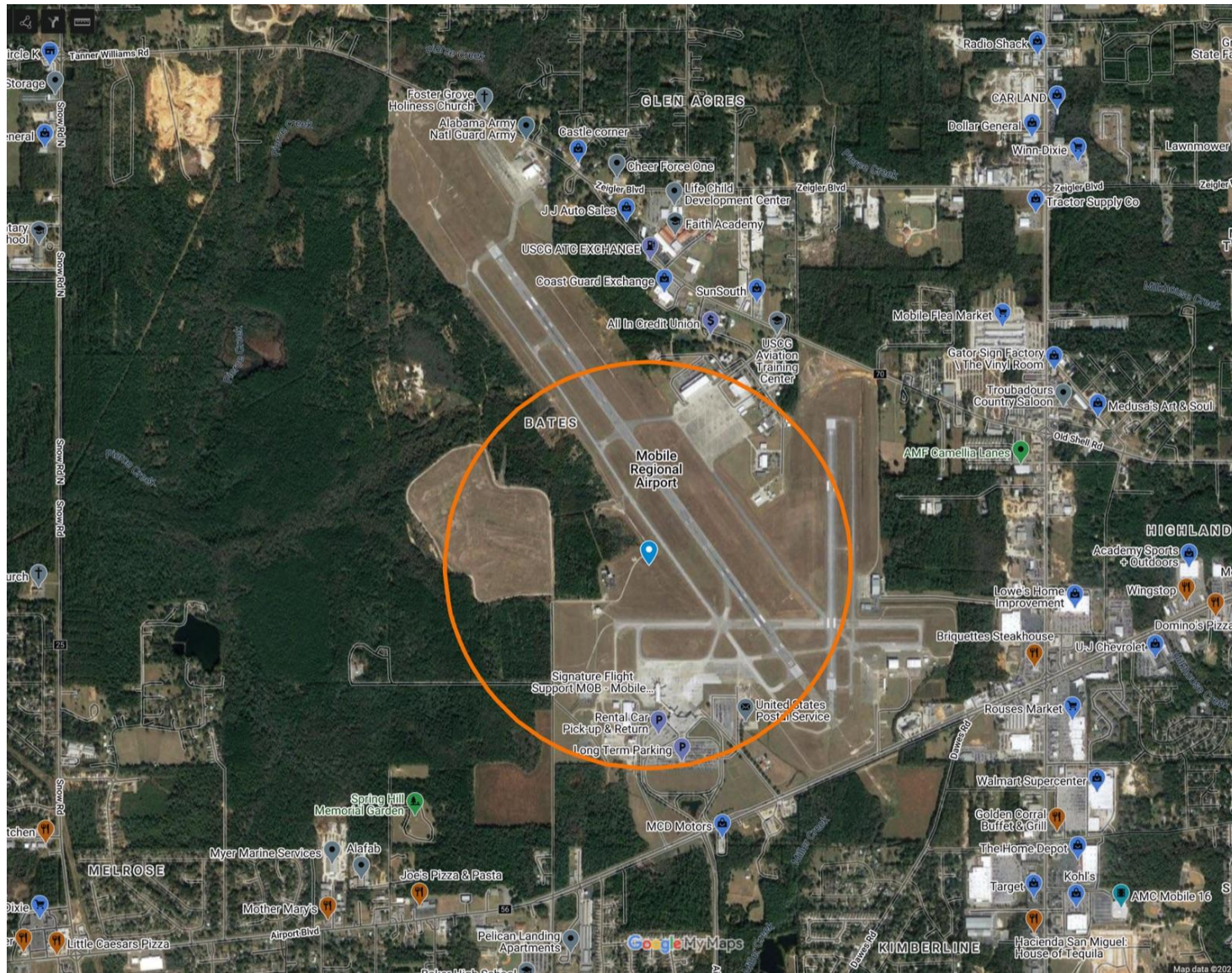
KUTA – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
MEMPHIS	MEMPHIS INTERNATIONAL AIRPORT	13893	KMEM	35.036472	-89.971861



KMEM – 1-km analysis radius

City	Station Name	WBAN	Call	Latitude	Longitude
MOBILE	MOBILE/BATES FIELD	13894	KMOB	30.688222	-88.245969



KMOB – 1-km analysis radius

File Availability and Package Contents

The processed files are posted on the MDEQ website: [MDEQ Meteorological Data](#). One zip archive is provided per station (e.g., KJAN21_25.zip) containing:

- K[STA][YYYY].sfc / .pfl – AERMOD-ready surface and profile files for each year 2021-2025, processed without ADJ_U*
- K[STA][YYYY]US.sfc / .pfl – the same years processed with METHOD STABLEBL ADJ_U*
- K[STA]_verification_report.txt – processing statistics and quarterly completeness
- K[STA]_2021_2025_met_report.pdf – graphical summary (wind roses, climatology, mixing heights, stability, completeness)
- README.txt – file naming and processing notes

Questions regarding the data or this documentation may be directed to Rodney Cuevas, MDEQ Air Division, RCuevas@mdeq.ms.gov.